

“Next Generation EU”

Greece 2.0

NATIONAL RECOVERY AND RESILIENCE PLAN



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Executive Summary

The National Recovery and Resilience Plan (NRRP) “Greece 2.0” aspires to lead the country’s economy, institutions and society into a new era; to spark a paradigm shift towards a more extroverted, competitive and green economic model, matched with a more efficient, less bureaucratic, digitalised state, a more growth-friendly tax system, a dramatically reduced informal economy, and a strong, resilient and inclusive social safety net.

Our goals go beyond economic recovery. We introduce fundamental economic and social reforms, which will affect --apart from the economic activity--, also technologies, attitudes and institutions, thus paving the way for a transformation which will combine economic efficiency with innovation and digital transition with protection of the environment, social cohesion and justice.

It is forecasted that Greece 2.0 reforms and investments will result in the creation of 180,000-200,000 new, permanent, quality jobs and a lasting increase of real GDP of 6.9%, in 2026. This increase in GDP is considered to be of a lasting nature because it is attributed mainly to the increase in private investments and to structural reforms which will improve the country’s productivity and competitiveness, lead to additional output and new jobs and, as a result, higher exports. The improvement of the quality of human capital and the positive effect that the digitalisation and the public sector reform will have on investments and productivity ensure the sustainability of this positive trend.

The NRRP fully complies with the EU goals for an accelerated green transition and digital transformation of the Greek economy and devotes in total 37.5% (37.81% grants and 37% loans) and 23.26% (25.59% grants and 20% loans) of the NRRP’s estimated cost to these two pillars respectively, thus surpassing the RRF Regulation’s mandatory minimum allocation. Moreover, the NRRP contributes to effectively address challenges identified in the relevant Country Specific Recommendations (CSRs), in terms of proposed reforms and investments necessary for their timely completion, and adds even more ambitious reforms which are included in the Greek Government’s National Reform Agenda and are proposed in great part by the Pissarides’ Committee report as well.

The NRRP is structured on four pillars: (a) **Green**, (b) **Digital**, (c) **Employment, skills, and social cohesion**, (d) **Private investment and transformation of the economy**. For its implementation, Greece asks for the maximum of funds available under the Recovery and Resilience Facility (RRF), i.e., EUR **17.8** billion in grants and EUR **12.7** billion in loans.

Furthermore, the use of the RRF resources is clearly frontloaded, which is in full accordance with the RRF Regulation rationale: more than 80% of total expenditure relating to the Plan is scheduled to take place until 2024. Likewise, the fact that reforms account for 39% of NRPP’s measures (106 investments and 67 reforms in total) speaks volumes about our priorities.

In economic terms, the Plan’s primary consideration is to cover the huge investment, output and employment gap, endemic to the performance of the Greek economy over the last decade which deteriorated significantly during the COVID-19 pandemic. Hence, the National Recovery and Resilience Plan intends to mobilise the private sector and to leverage significant additional private funding, by stimulating private investments and by using Public Private Partnerships (PPPs) and Energy Service Companies to carry out public investments. With the aforementioned tools and the utilisation of RRF loans for supporting private investments, the Plan seeks to mobilise a total amount of EUR 57 billion.

Moreover, the Plan envisages significant investments and reforms enhancing the quality, efficiency, and inclusiveness of public services and state social measures -including important sectors such as health, education, vocational training, justice, and the social safety net.

With respect to **green transition**, the Plan's investments and reforms include, inter alia:

- The interconnection between the Greek islands and the mainland, which will significantly reduce energy costs for households and businesses and will allow to better tap the Renewable Energy Sources potential of the country; undergrounding of the electricity distribution network in urban and rural/forest areas vulnerable to severe weather phenomena and/or forest fires; and a massive programme of renovation and energy efficiency upgrade of residential, commercial, industrial and public buildings and social infrastructure
- An Action Plan to tackle energy poverty
- The installation and operation of publicly accessible charging infrastructure for electric vehicles
- The reform of urban planning with the introduction of urban plans offering prompt and trustworthy information on land use for almost the four fifths of the country
- The implementation of selected strategic "green" urban regeneration projects
- Big investments on irrigation and flood mitigation projects mainly implemented through PPPs, accompanied by measures for sustainable water management (water saving actions, installation of digital meters and telemetry, remote control systems etc.).
- A new National Reforestation Plan combined with a forest maps overhaul
- Emblematic projects, such as the restoration and redevelopment of the former royal estate in Tatoi
- Initiatives for the protection of biodiversity including the establishment of a national network of paths and hiking trails and the establishment of a National System for the Permanent Monitoring of species and habitat and surveillance of protected areas
- Significant investment in infrastructure and equipment for the Civil Protection Centres (through PPPs).

Regarding the **digital transformation**, the Plan's investments and reforms include:

- The installation of fibre optic infrastructure in buildings to facilitate the transition towards fibre optic networks by households and businesses
- The deployment of modern submarine fibre cables that will connect mainland Greece with the Greek islands and the Republic of Cyprus
- The development of 5G networks covering all major Greek highways
- The digital transformation of small and medium enterprises via procurement of equipment, cloud services and on-line services, such as modern technologies of electronic payment, work from home, digital office etc.
- The digitisation of key archives in various sectors (justice, urban planning agencies, cadastre, immigration & asylum, the digital pension system -/EFKA) and integration in the relevant IT systems
- The interconnection and interoperability of registries, systems and services for data exchange in the public sector
- The upgrading of the central cloud computing infrastructure and services
- The expansion of the National Public Sector Network (SYZEFXIS II)
- The creation of an Integrated Customer Relationship Management system (CRM) in the Public Administration for citizens and businesses

- Further modernisation of Public Administration's one-stop-shop (Citizen's Service Centres/KEP)
- Data Governance strategy & policies for the Public Sector, ensuring full compliance with GDPR
- The upgrade of digital skills during military service
- Massive investment in digital public services including upgrading of the digital infrastructure of the Greek Public Administration, digitalisation of municipalities and the smart cities project etc.

As regards **employment, skills, and social cohesion**, the Plan's investments and reforms include among others:

- Labour market reform, enhancing job creation and job resilience in the event of shocks
- State-of-the-art active and passive labour market policies, promoting labour market activation, job creation and safety nets against unemployment
- A new strategy for lifelong skilling, which sets up an outcomes-based skilling-reskilling system with continuous and systematic evaluation, links the financial remuneration of providers to training and labour market outcomes and ensures high certification standards
- Additional skilling, up-skilling and reskilling programmes boosting employment, with an emphasis on green and digital skills
- Reform of the Vocational Education Training and Apprenticeship system
- Reforms and investments promoting the performance of Greek Universities in research and innovation, private sector sponsored research programmes, and the quality of education offered to students, in terms of skills and relevance to the labour market
- The digital transformation of education in terms of curriculum, infrastructure and services
- Digital equipment in schools allowing interactive digital classes and supply of upgraded laboratory equipment
- Vouchers for the purchase of necessary equipment for students coming from vulnerable social groups.
- Reforms and investments increasing the capacity and resilience of the health care system to provide health care services of high quality, such as:
 - Upgrade of the infrastructure and medical equipment and digitalisation of hospitals and health centres
 - Implementation of the National Public Health Prevention programme "Spyros Doxiadis" (national programme for the promotion of physical exercise and healthy eating; a national vaccination programme; implementation of the National Screening Programme - introduction of preventive diagnostic tests for breast cancer; the National Neonatal Screening Programme etc).
 - Reform of the primary health care system
 - Introduction of therapeutic protocols in the e-prescription system as well as of the digital patient health record
 - Reform in the field of mental health care, focusing on patients with dementia and Alzheimer's disease and patients in the age group of children, adolescents and young adults, as well as on persons with an autism spectrum disorder.

Last, but not least, reforms and investments strengthening social fairness and safety nets, including programmes enhancing economic and social integration of vulnerable groups, improving overall child protection, promoting equality of opportunities & supporting diversity, promoting integration of the refugee population into the labour market, while securing the social welfare system from misuse and/or fraud.

Under **private investment and transformation of the economy**, the plan includes:

- Significant reforms & investments to fight tax evasion, including via digitisation, codification and simplification of tax legislation, rules and procedures
- Actions against smuggling
- Use of artificial intelligence to facilitate tax auditing
- Incentives to increase electronic transactions
- Reforming and modernising the public administration, including capacity building and introduction of a reward system for public entities and civil servants
- Development of a Government Enterprise Resource Planning (GOV-ERP) to support a consolidated fiscal and financial management within the general government and all public agencies and rollout of e-invoicing in the public sector.
- An ambitious agenda to improve the efficiency of the justice system, through reforms, investments, digitalisation and training of judges and judicial staff with emphasis on digital skills
- Strengthening of the capital markets and new measures to tackle private indebtedness
- Upgrading of research centres' infrastructure, support to basic and applied research, and innovation funding
- Selected infrastructure projects to improve connectivity, such as the north part of Central Greece highway E-65 and the Cretan Northern Highway (both part of TEN-T)
- A major programme to improve road safety
- Upgrading and redeployment of the rail network system and infrastructure through PPPs
- Introducing a suburban railway in West Attica
- Expansion and modernisation of the electronic toll system
- Smart infrastructure projects
- Policies to promote culture, such as labour reform in the cultural sector; projects which turn culture into a driver of growth; adaptation of cultural venues infrastructure and services to tap on silver economy
- The establishment of a Museum of underwater antiquities
- Development of routes of particular natural and cultural interest as well as of climate change adaptation plans for cultural heritage sites
- Investments aiming to extend the tourism season and promote alternative forms of tourism (mountain tourism, health and wellness tourism, agrotourism, diving & underwater tourism); to upgrade regional ports, as well as the accessibility to beaches for the elderly and people with disabilities; and a dedicated programme of upskilling and reskilling in the tourism sector
- Establishment of new, next-generation industrial parks and acceleration of smart manufacturing
- Funding of projects promoting environment-friendly processes and innovative technologies in agriculture, and modernisation of the aquaculture production.

Utilising the RRF loans to improve competitiveness and to support private investments

The Plan is devoting the RRF loan support exclusively to important additional reforms and investments, to further reduce: (a) The significant negative output gap projected in 2020 to reach 12.3%, (b) The large investment gap characterising the Greek economy over the past ten years: in 2019 investment spending stood at 10.1% of GDP compared to a eurozone average of 22.2%, (c) The large interest rate differential on business loans observed between Greece and the EMU average. Around 70% of the total investment gap is due to (lack of) business investment. Therefore, utilising the loan support to finance private investments accompanied with adequate reforms, can stimulate growth, job creation and economic and social cohesion.

Consequently, Greece proposes to use the RRF loan support for the purpose of financing business investments introducing, at the same time, additional reforms and investments.

More specifically, the Plan introduces reforms which aim to increase competitiveness and to improve the business environment as well as Greece's ranking in the Ease of Doing Business and other competitiveness indexes. The reforms also include the introduction of incentives to encourage the micro, small and medium-sized enterprises to increase economies of scale through mergers, conversions, acquisitions and cooperation schemes & platforms.

The investments promoted will be in the private sector and their selection will be made exclusively by commercial banks or European Institutions (EIB, EBRD), without the involvement of the government. There will be five eligible economic priorities: green transition, digital transformation, promoting exports, financing research and development (innovation), as well as promoting economies of scale. Loans will offer a maximum of 50% co-financing with third party financing covering the rest.

Finally, the National Recovery and Resilience Plan also includes an analysis of its overall impact, a summary of the consultation process conducted for its preparation, an outline of the communication strategy and a presentation of the Management and Control System set up to ensure the successful implementation of the NRRP as well as compliance with the applicable Union and national law related to the protection of the financial interest of the Union (and Greece), throughout its implementation.

Table 1 Mobilised Investment Resources

Pillars & Components	RRF budget	Mobilised Investment Resources
1. Green Transition	(mil.€)	(mil.€)
1.1 Power Up	1,200	2,348
1.2 Renovate	2,711	5,225
1.3 Recharge and refuel	520	1,305
1.4 Sustainable use of resources, climate resilience and environmental protection	1,763	2,726
Total Resources Pillar 1	6,194	11,604
2. Digital Transformation		
2.1 Connect	522	582
2.2 Modernise	1,281	1,281
2.3 Digitalisation of businesses	375	475
Total Resources Pillar 2	2,177	2,338
3. Employment, skills and social cohesion		
3.1 Increasing job creation and participation in the labour market	776	776
3.2 Education, vocational education, training, and skills	2,311	2,395
3.3 Improve resilience, accessibility and sustainability of healthcare	1,486	1,486
3.4 Increase access to effective and inclusive social policies	611	611

Total Resources Pillar 3	5,185	5,268
4. Private investment and transformation of the economy		
4.1 Making taxes more growth friendly, and improving tax administration and tax collection	187	215
4.2 Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption	189	189
4.3 Improve the efficiency of the justice system	251	464
4.4 Strengthen the financial sector and capital markets	21	21
4.5 Promote research and innovation	444	612
4.6 Modernise and improve resilience of key economic sectors	3,743	7,233
4.7 Improve competitiveness and promote private investment and exports	5	5
Technical Assistance	40	40
Total Resources Pillar 4	4,839	8,779
Sum of Grants	18,436	27,988
Loans	12,728	31,819
Total Investment Resources	31,163	59,807

Table 2 Budget

Pillars	RRF Budget (in €bn)	Mobilised Investment Resources (in €bn)
1. Green Transition	6.194	11.604
2. Digital Transformation	2.177	2.338
3. Employment, Skills, Social Cohesion (Health, Education, Social Protection)	5.185	5.268
4. Private investment and transformation of the economy	4.879	8.779
Sum of Grants Green tag: €6.7bn (37.81%), Digital tag: €4.55bn (25.59%)	18.436	27.988
Loans	12.728	31.819
Total Investment Resources	31,163	59,807

General objectives

Greece's Recovery and Resilience Plan contains a comprehensive and coherent set of reforms and investments, structured into four (4) pillars, encompassing a total of eighteen (18) components:

1. Green Transition

- 1.1 Power Up
- 1.2 Renovate
- 1.3 Recharge and refuel
- 1.4 Sustainable use of resources, climate resilience and environmental protection

2. Digital Transformation

- 2.1 Connect
- 2.2 Modernise
- 2.3 Digitalisation of businesses

3. Employment, skills, and social cohesion

- 3.1 Increasing job creation and participation in the labour market
- 3.2 Education, vocational education, training, and skills
- 3.3 Improve resilience, accessibility and sustainability of healthcare
- 3.4 Increase access to effective and inclusive social policies

4. Private investment and transformation of the economy

- 4.1 Making taxes more growth friendly, and improving tax administration and tax collection
- 4.2 Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption
- 4.3 Improve the efficiency of the justice system
- 4.4 Strengthen the financial sector and capital markets
- 4.5 Promote research and innovation
- 4.6 Modernise and improve resilience of key economic sectors
- 4.7 Improve competitiveness and promote private investment and exports

The 18 components included in the Recovery and Resilience Plan make effective contributions to all six pillars that define the scope of the Recovery and Resilience Facility (RRF) as per Regulation (EU) 2021/241), namely:

1. green transition;
2. digital transformation;
3. smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs;
4. social and territorial cohesion;
5. health, and economic, social and institutional resilience, with the aim of, inter alia, increasing crisis preparedness and crisis response capacity; and

6. policies for the next generation, children and the youth, such as education and skills.

The following sections map in detail the reforms and investments of the Recovery and Resilience Plan onto each of the six pillars quoted above.

Green transition

The Recovery and Resilience Plan contributes to Greece's green transition and aligns with the priorities of the European Green Deal, the 2030 climate targets and the goal for climate neutrality by 2050, by allocating in total 37,5% of the estimated cost to climate actions. In addition, each of the plan's reforms and investments follows the "do no significant harm" principle, as defined in Article 17 of Regulation (EU) 2020/852.

The plan is in line with the strategic priorities of Greece's National Energy and Climate Plan (NECP) and the specific targets set by the latter. It also incorporates the European Commission's recommendations, under the recent assessment of the NECP regarding the use of the RRF. Moreover, in synergy with the national and territorial Just Transition Plans, the National Recovery and Resilience Plan takes into account the need to ensure a just transition, in view of the phase-out of lignite and, in addition, the need to tackle the challenge of energy poverty. The NECP and Greece's national plans in Waste Management, Reforestation, Circular Economy and Biodiversity form the strategy underpinning the Recovery and Resilience Plan's contribution to the green transition. The consistency of the plan with climate and environmental goals, and more widely with all relevant national initiatives, is discussed in detail in section 6 (*Coherence*) of *Part 1* and *Part 3 - Complementarity and implementation of the plan*.

Reforms and investments of the Recovery and Resilience Plan that are essential in order to meet Greece's climate and environmental targets and address the challenges and opportunities stemming from green transition have been mapped in the following four components:

Component 1.1 – Power up: Transition to a new, low carbon energy model is a high priority for Greece. The country has embarked on an ambitious plan to reduce greenhouse gas (GHG) emissions, increase the share of renewable energy sources (RES) in gross final energy consumption and improve energy efficiency.

The aim of the component is to contribute to the aforementioned climate and energy targets, through a batch of investments that increase the resilience of the electricity network, its capacity and its energy storage capabilities, thus, allowing for greater penetration of RES in the energy mix. Strong emphasis is placed on electricity interconnections between the islands and the mainland, and in particular, the connection of the Cyclades Islands to the mainland's grid. These interventions aim to reduce energy costs, phase-out oil-fired power generation and increase the potential of the islands to support electricity generation from RES. In addition, the component introduces reforms that ensure financial stability and long term sustainability of the RES-CHP Account and speed up the licensing procedure for new RES plants.

Moreover, the component will promote Greece's national target for the total phase-out of lignite by 2028, by introducing integrated support measures, including socio-economic and environmental rehabilitation measures, for the redevelopment of affected areas, thus, ensuring a just transition.

Component 1.2. – Renovate: Climate mitigation and adaptation actions for the built environment in Greece is a key priority. The component includes reforms and investments that promote the renovation and energy efficiency upgrade of buildings, the implementation of urban and spatial

planning, and the development of strategic “green” urban regeneration projects. As far as the building sector is concerned, the component supports the renovation of the existing building stock, including residential, commercial, industrial and public buildings as well as social infrastructure, aiming at their energy efficient upgrade, and implementing a new action plan to tackle energy poverty. More specifically, the energy renovation programme for residential buildings will contribute up to 15% towards the relevant NECP target. With regards to urban planning, the reforms and investments of the component will improve the urban ecosystem by modernising the legal framework for urban policy and promoting sustainable growth projects. Finally, the component supports the implementation of strategic, green urban regeneration projects across the country, including in the former industrial area of Votanikos / Elaionas and the coastal front of Athens.

The component will contribute directly and indirectly to economic growth and job creation in multiple economic sectors and promote the resilience of the Greek economy. The incentives for energy upgrade of buildings will attract private investment and create new employment opportunities, thus contributing to the sustainable development of multiple sectors. In addition, it will facilitate the green transition, contribute to the national and EU climate objectives linked to the reduction of GHG emissions, and overall improve the cities’ resilience to climate change. Last, but not least, the component includes investments across Greece that contribute significantly to territorial cohesion, by promoting balanced and sustainable growth while mitigating territorial disparities.

Component 1.3. – Recharge and refuel: Transitioning to green and sustainable transport remains a key challenge for Greece. This component aims to promote cleaner, smarter and cheaper transportation. It introduces reforms that enable the installation and operation of charging infrastructure for electric vehicles. It also promotes the investments required to establish the roadmap towards meeting the NECP target of 30% share of electric vehicles in the domestic market by 2030. In particular, the plan will support the installation of more than 8,000 charging points in key urban and suburban locations and other publicly accessible points of interest across the country. It will also contribute to the electrification of public transport through the replacement of high-emission, old buses with electric ones; and provide incentives for the use of battery electric vehicles as taxis. Moreover, the component will support the development of industrial production units in innovative fields and technologies related to e-mobility, as well as carbon capture and storage.

E-mobility is an indispensable part of GHG reduction emissions target and favours RES penetration in the energy mix. It also serves three objectives of the “EU Taxonomy Regulation”, namely, climate change mitigation, transition to a circular economy, pollution prevention and control. Last but not least, the component promotes the digital transition by introducing the design and implementation of new technologies and supporting innovation.

Component 1.4. – Sustainable use of resources, climate resilience and environmental protection: The main objectives of the proposed reforms and investments included in this component are alignment with the principles of a circular economy, natural environment protection and climate change. To that end, the component includes three sets of actions, which contribute to all six objectives of the “EU Taxonomy Regulation”.

The first set of actions contributes to waste management, following the principles of waste hierarchy and circular economy; and the protection of water resources, including water saving actions, the installation of digital meters and telemetry - remote control systems, the construction of infrastructure for water management and wastewater treatment and the introduction of

reforms that promote efficient and sustainable use of water resources. The second set of actions aims to protect the environment, through reforestation initiatives and actions for the protection of biodiversity. More specifically, the component includes the restoration of more than 16,500 hectares of degraded forest ecosystems in Greece, contributing significantly to the National Reforestation Plan. The third set of actions, focuses on enhancing and upgrading the capabilities of Greece's civil protection mechanism; and aims to address challenges related to climate change, as Greece is seriously affected by the increasing severity and frequency of climate related disasters and extreme events.

The sum of these investments and reforms promote social welfare, economic and social resilience, and lead to the creation of employment opportunities. Moreover, as the majority of investments will take place in municipalities and regions across the country, they are bound to boost territorial cohesion as well.

Last, but not least, the actions of these four components are reinforced by the one-off tax credits for business investment that fosters clean energy and sustainable production, which are part of **Component 4.1**.

Digital transformation

The Recovery and Resilience Plan contributes to Greece's digital transformation by devoting in total 23.26% of the estimated cost to digital objectives. It reflects the specific goals and structured action plan of the national Digital Transformation Bible 2020-2025 (DTB). The DTB is closely aligned with the three key objectives of "Shaping Europe's digital future" namely:

(a) Technology that works for people: the DTB prioritises interoperability in the design of public services for their seamless operation to the benefit of citizens and businesses. It places emphasis on connectivity that results in jobs and growth, envisaging better mobile and fixed broadband connections, ultra-fast internet access in cities and rural areas, creating the right conditions for private investments in digital competitiveness. Finally, it encompasses national strategies for cybersecurity, artificial intelligence, the development of digital skills, and the empowerment and equal participation of women, the elderly and vulnerable groups in the digital age.

(b) A fair and competitive economy: the DTB supports the digitalisation of the Greek economy by building up the aforementioned key digital enablers (i.e. digital skills, digital infrastructure, digital services).

(c) An open, democratic and sustainable society: the DTB's Open Public Sector Information policy increases the availability of open data and facilitates their use with due regard for the rules on data protection. The DTB also envisages actions for transparency and open government.

Additionally, the DTB is coherent with the principles of the **European Green Deal**, notably through the foreseen consolidation of the public administration's IT infrastructure into a central government cloud (g-cloud) infrastructure.

The key challenges and objectives identified, as well as most of the reforms and investments to achieve them, have been grouped in the following three components that aim to improve digital performance as measured by the various dimensions of the **Digital Economy and Society Index (DESI)**.

Firstly, Greece ranks last among EU countries on the Connectivity component of DESI. Although Greece is progressing at a very high pace in fast broadband (NGA) coverage showing a substantial progress of 15 pp. over the last year, it still remains below the EU average.

Component 2.1 – Connect: The purpose of this component is to cover ground in very-high-speed connectivity, achieve Greece’s gigabit society targets and improve its digital competitiveness. The investments facilitate the installation of fibre optic infrastructure, the development of 5G networks covering all major Greek highways and the utilisation of space technologies and applications by developing a constellation of small-satellites. The reforms institute the framework needed to facilitate the switch to fast broadband connections and the transition to 5G technology. The implementation of this component will generate important spill-over effects across the society and economy, including job creation, new and better investment opportunities for the industrial sector, and higher efficiency and productivity both for citizens and businesses.

Secondly, Greece lags behind in terms of digital efficiency and effectiveness of its public administration, ranking 27th in the EU in the Digital Public Services dimension of DESI.

Component 2.2 - Modernise aims to modernise the public administration by improving its operational model, and achieving provision of high-quality services to citizens and businesses. Accelerating efforts to improve upon the public administration’s digital performance will act as a catalyst to achieve this aim. Reforms and investments target: (a) the digital transformation of the organisations of the public sector, including the digitisation of archives and enhanced digital services; (b) business process improvements followed by the incorporation of modern IT systems; (c) increased interoperability between systems and data; (d) wide-ranging cybersecurity and data governance strategies and policies; as well as (e) extended use of advanced technologies, such as cloud computing and big data.

Apart from reducing the administrative burden, full implementation of the plan across the public sector - central, regional and local government entities - will remove existing digital barriers and foster widespread adoption of digital technologies. Thus, in addition to the Digital Public Services dimension, the proposed investments will also improve the position of Greece in the Integration of the Digital Technology dimension of the index through these spillover effects. Moreover, the projects will improve government accountability, social inclusiveness and partnerships by creating a data-driven culture in the public sector and ensuring coherent use of digital technologies across policy areas and levels of government.

Finally, Greece has one of the least advanced digital economies in the EU and according to the DESI, as Greece’s overall ranking is 27th out of the (then) 28 EU Member States.

Component 2.3 – Digitalisation of business aims to boost the adoption of digital technologies by businesses, in particular small and medium enterprises (SMEs), and close the digital gap between Greece and the EU average in this respect. The reform and investment of this component will tackle the key challenges of digital inclusion, including the lack of awareness about the benefits of digitalisation and knowledge about how to adopt digital technologies. The initiatives will facilitate the creation of the appropriate digital business ecosystem. They will also support SMEs in obtaining (a) digital services (digital sales, payments, AI, cybersecurity, etc.), (b) industrial data platforms and data spaces, and (c) new technology cash registers and point of sale (POS) terminals. Last, but not least, the actions of this component interact with the one-off tax credits for investments that contribute to the digitalisation of businesses.

The implementation of this component, and the full range of benefits stemming from the adoption of digital technologies by businesses, will significantly improve the country's position in

the DESI 'Integration of Digital Technology' dimension, in which Greece was ranked 23rd among EU Member States in 2020, as well as the 'Human Capital' and 'Use of Internet Services' dimensions, in which Greece was ranked 24th in 2020.

Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs

Greece faces a double challenge as regards economic growth.

Firstly, Greece deals with the immediate economic and social impact of the COVID-19 crisis. According to the provisional national account data published by the Hellenic Statistical Authority (ELSTAT), GDP contracted by -8.2% in 2020, while, the continuing decline of the unemployment rate from very high levels was discontinued, stabilising in the area of 16% (15.8% latest reading in December 2020), favourably impacted upon by employment support measures taken by the government during the pandemic.

Secondly, Greece has been diverging from the EU average in real economic terms for over a decade. During that period, the distance to the EU27 and euro area averages grew significantly: whereas Greece's real GDP per capita in 2007 was trailing the former by 11.8% and the latter by 23.4%, in 2019 the gap had grown to 36.6% and 43.2% respectively. Greece was ranked 18th in 2019 among the 27 EU Member States in this respect, as opposed to 14th in 2007.¹ Zooming out, the average annual real GDP growth rate in Greece from 1981 to 2019 was 0.9%, and real GDP per capita grew even more slowly – about 0.6% per year on average.²

As regards, the first challenge, the Recovery and Resilience Plan will provide significant economic stimulus that will decisively contribute to macroeconomic stabilisation. RRF grants will finance a set of high-multiplier, mature infrastructure investments, many of which also enhance the green transition and the digital transformation. These investments are bound to increase aggregate demand and employment in the short term. Beyond its immediate macroeconomic effect, the plan has no adverse effect on the sustainability of public finances, preventing premature fiscal consolidation. Along with the activation of the general escape clause of the Stability and Growth Pact, it enables the counter-cyclical use of fiscal policy until the economic shock of the pandemic dissipates, through appropriate fiscal support measures and the sound operation of automatic stabilisers.

According to the macroeconomic outlook of Greece's Stability Programme (*Part 4 - Overall Impact*), timely and smooth implementation of Greece's Recovery and Resilience Plan is expected to add 1.3 percentage points (pp.) to real GDP in 2021, bringing the annual growth rate to 3.6%. The positive momentum generated by the execution of the plan and the return to economic normality is expected to result in a 6.2% growth rate in 2022 - at the end of that year Greece will have more than recouped the shortfall of GDP relative to its pre-pandemic (2019) level. Supported by buoyant economic activity, employment is projected to grow robustly (2.3%), with the unemployment rate forecasted to decrease by nearly 2 pp. (14.4% from 16.3% in 2021, thereby resuming its pre-pandemic declining path.

¹ Eurostat, nama_10_pc, updated on 12/11/2020 (Chain linked volumes 2010)

² Pissarides' Committee report, p. 16

In this respect, the swift implementation of public investment is of utmost importance. This is why one of the three objectives of **Component 4.2. - Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption** is to enhance the efficiency of public investments (along with the modernisation the Public Financial Management (PFM) framework, and the increase in transparency and fight against corruption). This includes enhancing the digital capacity of decentralised State aid units, as well as updating the legal framework for State aid; training of personnel to improve the effectiveness of the public procurement system; and an upgrade of IT systems for e-procurement.

As regards, the second challenge, convergence requires the acceleration of GDP growth on a sustained basis. In turn, this requires raising Greece's potential output and tackling the factors that constrained its growth even prior to the economic crisis of the past decade, namely low investment, productivity growth and employment.

Greece's Recovery and Resilience Plan contributes decisively to this end by addressing each of these constraining factors and changing the country's growth model. The macroeconomic impact assessment carried out by the Bank of Greece (and presented in more detail in *Part 4 - Overall Impact*) concludes that the Recovery and Resilience Plan will result in a cumulative increase in real GDP over the period 2021-2026, compared to the baseline scenario, equal to about 1/3 of Greece's 2020 GDP, with real GDP in 2026 projected to be 7 percentage points (pp.) higher compared to the baseline. Moreover, this increase persists in the long-term primarily due to the effects of structural reforms included in the plan, with the permanent increase 20 years forward amounting to 6.5 pp. of (baseline) GDP per year. Finally, the plan will create 180,000 to 200,000 jobs and increase private investment by up to 20% until 2026.

The first factor constraining growth in Greece is the structurally low rate of productive business investment, exacerbated by the legacy investment gap of the previous crisis. Between 2010 and 2019, gross fixed capital formation as a percentage of GDP consistently undershot the euro area average (Figure 1). During that period, Greece's investment gap – measured as the deviation from the euro area average – averaged about 9% of GDP per year, or €162 bn in cumulative terms.

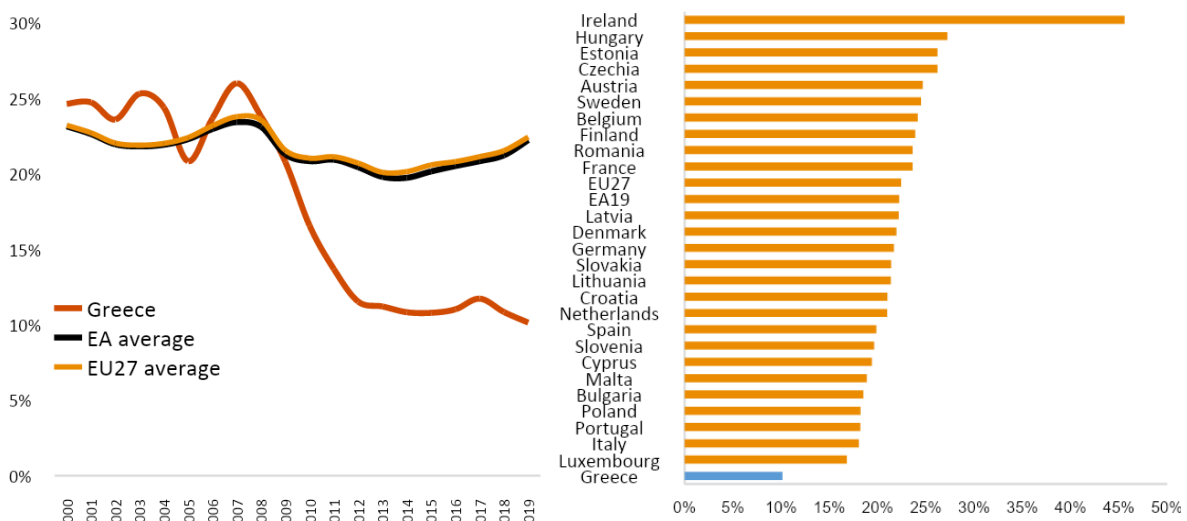
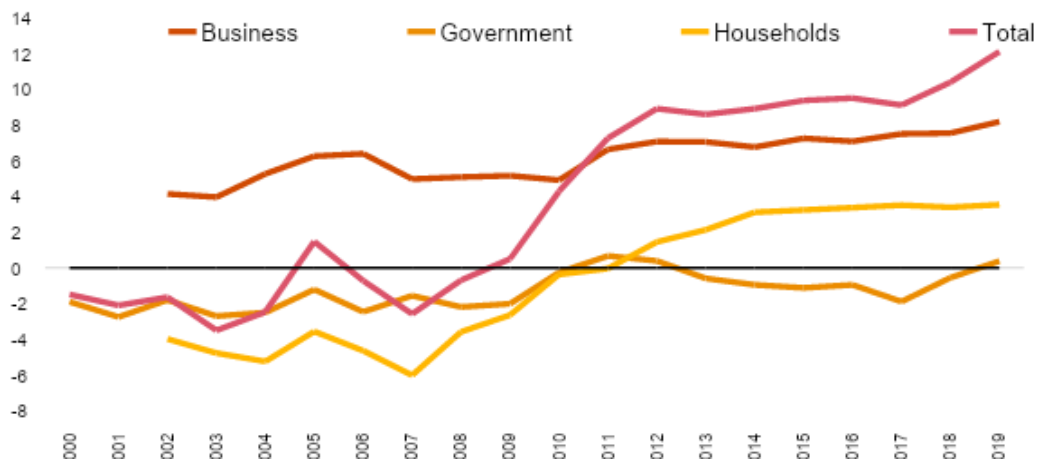


Figure 1 Gross fixed capital formation (% GDP), 2000-19 & 2019

Source: Eurostat [nasa_10_ki, updated on 29/10/2020]. Note: data for Bulgaria is from 2017, data for Luxembourg, Malta and Poland is from 2018 (right-hand side chart).

The disaggregation of investment spending by institutional sector reveals that two thirds of the investment gap is due to private business investment (Figure 2). Moreover, the investment gap in the business sector predates the economic crisis but grew further during the past decade.

Figure 2 Investment gap (euro area average vs. Greece) by institutional sector, pp. GDP



Source: Eurostat [nasa_10_ki, updated on 29/10/2020]. Note: euro area average (% GDP) minus Greece (% GDP), i.e. a positive value indicates a gap.

To address this challenge, apart from the aforementioned public investments, **Component 4.7. - Improve competitiveness and promote private investment and exports** proposes the use of Recovery and Resilience Facility loans as financial incentives for private investments.

The pre-existing large private investment gap implies that there is a significant pool of mature private investments. Further, the investment gap can be partly attributed to access to finance constraints (liquidity, capital ratio i.e. regulatory constraints, lack of sectoral expertise), as well as market failures in the banking sector (excessive risk aversion and asymmetric information). These are not expected to be relaxed and resolved respectively in the short-term, given the impact of the COVID-19 crisis.

Using RRF loans to finance private investment can significantly contribute towards accelerating the economic recovery and raising potential growth, and will follow very specific principles. Loans will be directed to long-term investments by the private sector rather than to short-term financing of working capital, and finance only projects with positive expected rate of return (positive net present value). Eligible for financing will be investments contributing to one or more of the following goals: 1) green transition; 2) digital transformation; 3) research and development; 4) economies of scale through mergers, acquisitions and partnerships; and 5) higher exports.

In addition, **Component 4.6. - Modernise and improve resilience** includes the reform of the legal framework regarding the attraction of strategic investments, with a view to making Greece a more competitive destination for domestic and foreign investment, including through: the creation of a new category of strategic investments with additional incentives, the simplification and consolidation of the licensing procedure through a one-stop-shop, and the inclusion of new fields of economic activity and Important Projects of Common European Interest (IPCEI) in the framework.

Structurally low rates of productive investment are also related to institutional barriers, namely the still high regulatory burden, and inefficiencies in the public administration and the justice

system, causing disincentives to investment. The Recovery and Resilience Plan contains a set of reforms to address these challenges and boost investment in the long-term, which are presented in detail in section “1.5. Health, and economic, social and institutional resilience, with the aim of, *inter alia*, increasing crisis preparedness and crisis response capacity”).

The second factor constraining growth in Greece is low productivity. There exists a persistent productivity gap between Greece and the euro area average.

Apart from slowing down the accumulation of capital, the lack of investment also negatively affects productivity. Low business investment in research and development and digital technologies in particular undermine the competitiveness and productivity of Greek firms. The low degree of innovation has similar effects. Greece’s lagging performance in the European Innovation Scoreboard is explained mainly by large deficits in venture capital expenditures, intellectual assets and R&D expenditure in the business sector. As a result, there is significant potential to improve outcomes, especially in the aforementioned categories, provided that synergies are formed with areas in which Greece outperforms the EU average in other categories, such as the innovation capacity of SMEs and the share of the population with tertiary education.³ To do so:

Component 4.5. - Promoting research and innovation has a twofold aim: first, to strengthen the link between science and business; and second, to promote public and private investment in R&D. This is done through a set of reforms increasing the extroversion of Greece’s ecosystem and promoting cooperation with counterparts abroad. Investments contributing towards meeting these objectives include: co-funding research projects in smart specialisation (RIS3) sectors and proposals that have received the HORIZON 2020 “Seal of Excellence” quality label with the private sector; increasing funding for basic research and financing a set of promising applied research projects; and upgrading the infrastructure of Greece’s Research Centers.

These investments are complemented by **Component 2.3** for the digitalisation of business, in particular SMEs, which was presented in detail in the previous section.

The Recovery and Resilience Plan also seeks to strengthen key economic sectors in which Greece enjoys a comparative advantage and that were disproportionately affected by the pandemic. The overarching objective is to increase the competitiveness and extroversion of businesses, particularly SMEs, in these key sectors and are combined in **Component 4.6. - Modernise and improve resilience of key economic sectors**. For tourism, the plan envisages a reskilling and upskilling programme for employees and investments that aim to promote alternative forms of tourism and extend the tourist season, thus, diversifying the sector. For culture, actions to support and modernise the Cultural and Creative Industry (CCI), protect Greece’s cultural heritage from climate change effects, and invest in infrastructure along routes of particular cultural and natural interest. For manufacturing, investments in support of the transition to Industry 4.0. And for agriculture and aquaculture, a concerted effort to modernise the sectors, increase the value added of the final output and boost exports.

Furthermore, Greek firms of all sizes (micro firms, SMEs and large companies) are all smaller relative to the euro area average, which negatively affects their productivity and competitiveness. The target of economic policy should be to create an economic environment allowing firms of all types (micro, small, medium and large) to grow in size, cooperate and realise their full potential.

³ Pissarides Committee report, p. 22

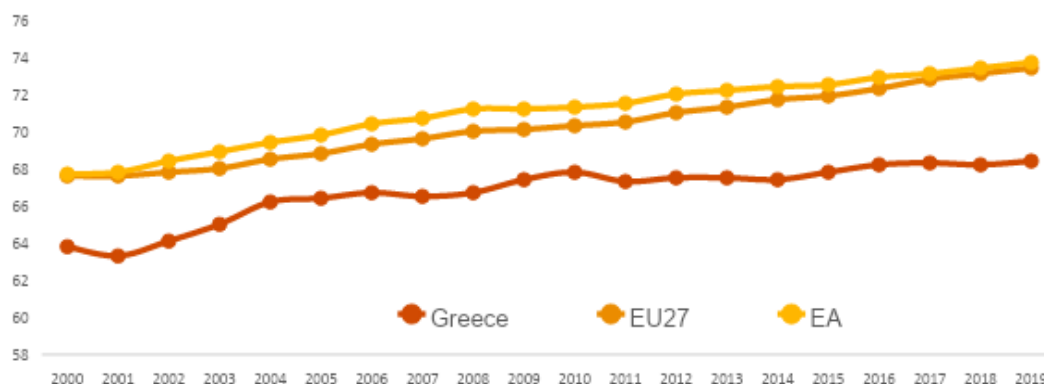
Therefore, beyond the financial incentives for private investments, **Component 4.7.** is complemented by a regime of incentives to increase economies of scale, the productivity and extroversion of enterprises. This includes two separate sets of tax and other incentives to realise economies of scale through mergers, conversions, acquisitions and cooperation schemes & platforms (e.g. joint ventures, clusters): First, a horizontal one; and second, one targeting specific sectors / goals (logistics, tourism, exports, research and development).

Social and territorial cohesion

The third factor constraining growth in Greece pertains to persistently low levels of employment, even prior to the recent economic crisis. For one thing, Greece faces a high unemployment rate reflecting the large output gap recorded over the past decade. For another, the share of the economically active population (between 15-64 years old) in Greece is consistently below the EU average (Figure 3). Despite increasing between 2009 (67.4%) and 2019 (68.4%), the gap to the EU27 average grew wider (70.1% in 2009 vs. 73.4% in 2019). By 2019, Greece had the 3rd lowest economic population activity rate in the EU, down from 9th lowest in 2009.

At the same time, persistently high unemployment and low participation in the labour market aggravate existing inequalities and undermine economic, social and territorial cohesion: the downward trajectory of per capita income translated into a high share of people at risk of poverty and social exclusion (Figure 4) and, by 2018 and 2019, led to Greece having the 3rd highest share of people at risk of poverty or social exclusion in the EU⁴. Moreover, the COVID-19 crisis risks further exacerbating these inequalities. Apart from generating the consistent increase in GDP growth rates required to converge to the EU average in this respect, the Recovery and Resilience Plan introduces a set measures, in line with the principles of the European Pillar of Social Rights (see *Part 4 - Overall impact*), that aim to increase employment, promote gender equality and mitigate inequalities.

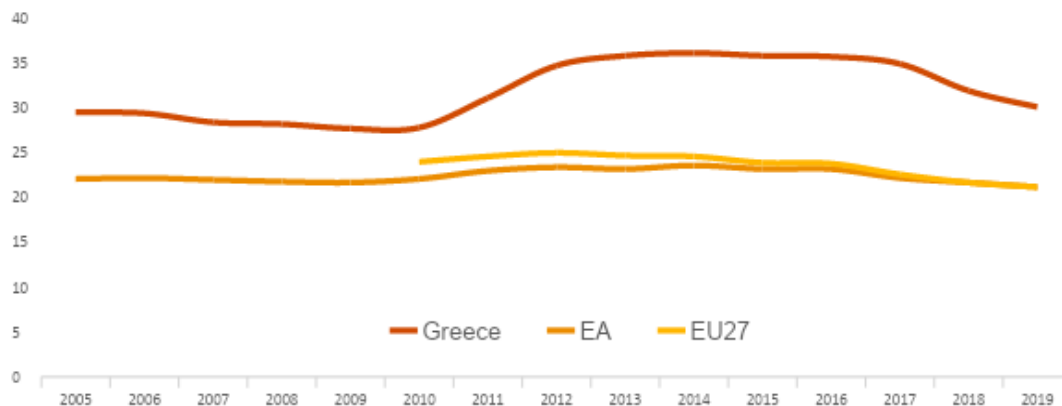
Figure 3 Economically active population as % of total population, ages 15-64



Source: Pissarides' Committee report (values from Eurostat [lfsi_emp_a])

⁴ Pissarides' Committee Report, p. 30, Eurostat [ilc_peps01]

Figure 4 Risk of poverty and social exclusion, % of total population



Source: Pissarides' Committee report (values from Eurostat [ilc_peps01])

Beginning with the challenge of unemployment, **Component 3.1. - Increasing job creation and participation in the labour market** encompasses the redesign, strengthening and overall revamping of Greece's active labour market policies (ALMPs). The objective is to promote labour market activation, facilitate the transition from unemployment to full-time employment, and provide an effective safety net against unemployment. To achieve these goals, the component foresees programmes combining training with support for private sector employment, targeting the most vulnerable segments of the labour force. Further, it contains actions to increase the capacity - digital or other, including in counselling services - of the Public Employment Service (OAED), in order to deliver high-quality job searching and matching services to the unemployed.

For skills, **Component 3.2. Education, vocational education and training, and skills** includes a flagship reform of the governance of training provision for upskilling, reskilling and lifelong learning. The reform establishes an incentives-compatible remuneration system that promotes and rewards the adoption and scaling up of best practices, and will result in a systemic improvement of training and labour market outcomes. The reform, which will apply across the board, will be combined with support for training programmes that cover the entire labour force and prioritise reducing skill mismatches and increasing the labour market relevance of training, with a strong focus on the skills required for the green transition and the digital transformation. Beyond the increase in job matching, employment and incomes the reform will bring about, its design promotes equality of opportunities and contributes to the reduction of inequalities and the risk of poverty and social exclusion. This reform aside, **Component 3.2.** also encompasses the bulk of the plan's policies for the next generation, children and the youth, which are presented in detail in section 1.6 "*Policies for the next generation, children and the youth, such as education and skills*".

Greece also faces the additional challenge of the particularly low participation of women and young people in the labour market. The share of active women in Greece in 2019 was 60.4%, the 3rd lowest among EU member states, compared to 68.5% on average in the euro area and 67.9% in the EU27. Furthermore, among 15-24 year olds, only 22.5% participated in the labour market

in Greece (the lowest share in the EU) relative to 39.4% in the EU and 40.3% in the euro area on average.⁵

Component 3.1. - Increasing job creation and participation in the labour market contains the reform of the labour law. In addition to fostering job creation and the resilience of the labour market in the event of shocks, the reform transposes Directive (EU) 2019/1158 on work-life balance for parents and carers and gender equality, fully in line with the relevant principles of the European Pillar of Social Rights. In fact, the reform goes beyond the Directive's requirements, legislating leaves which have been agreed with social partners (e.g. childcare leave, leave to follow-up on school performance, leave for parents of sick or disabled children, or single-parent families). The reform is complemented by support for the creation of new early childcare centres or the increase in capacity in existent childcare centres for children aged between 2 months and 2 ½ years; and a programme for the creation of childcare units in the premises of larger companies (**Component 3.4.**). The overall contribution of the Recovery and Resilience Plan to gender equality and equality of opportunities is presented in detail in the dedicated chapter ("*5. Gender equality and equality of opportunities for all*").

Last, but not least, **Component 3.4. Increase access to effective and inclusive social policies** includes reforms and investments targeted towards some of the most vulnerable population groups of the country, with the overarching aim of providing equal opportunities for all, irrespective of gender, ethnicity, sexual orientation, age, disability, and other characteristics. The component overall supports the social protection and inclusion chapter of the European Pillar of Social Rights, ensuring that the benefits of growth are widely shared, thus reducing poverty and inequalities. Further, the component mitigates the unprecedented adverse effects of the pandemic on the most vulnerable groups of the population.

To achieve these ends, the component spans a host of initiatives, namely: (a) digital transformation of the social protection system; (b) support for the labour market (re)integration of the most vulnerable population groups, specifically of the homeless, Guaranteed Minimum Income recipients, and refugees; (c) housing support to most vulnerable groups threatened by or facing homelessness; (d) programs for the digital inclusion of the elderly and people with disabilities; (e) support for independent living for people with disabilities; (f) actions to safeguard the social benefits from misuse or fraud; and (g) diversity training in both the public and the private sector to fight discrimination of any kind. **Component 3.4.** also contains policies for children, which are presented in detail in section 1.6 "*Policies for the next generation, children and the youth, such as education and skills*".

Moreover, it is important to address regional inequalities within Greece, which manifest themselves in indicators such as GDP per capita and the unemployment rate⁶.

Component 4.6. - Modernise and improve resilience contains a number of growth-enhancing infrastructure investments across the country's 13 regions, promoting high-quality, multimodal, climate-resilient, and safe transport. Together with the reform of the regulatory framework of public contracts, it will improve connectivity and leave no part of Greece behind in the green, digital and economic transition. These investments are combined with support for economic activity across Greece's regions. In summary, the component contributes to territorial cohesion through:

⁵ Pissarides' Committee report, p. 28

⁶ Pissarides' Committee report, p. 31

1. Investments in road and railway TEN-T networks, ports, safety upgrades in the road network and in regional airports;
2. Creation of next-generation (Industry 4.0) industrial parks;
3. Co-financing of private investments aiming at the modernisation of the agriculture and aquaculture sectors;
4. Interventions for the development of tourism in the mainland and islands/coastal parts of Greece;
5. Programmes that aim to promote culture as a driver of regional growth.

Furthermore, investments that are geographically distributed across Greece are found in other components, specifically:

1. Upgrades in the electricity distribution network, with a view to strengthening its resilience and protecting the environment - **Component 1.1.**
2. Green urban regeneration projects and energy upgrades in public sector buildings - **Component 1.2.**
3. Reforestation and protection of biodiversity - **Component 1.4.**
4. Wastewater management and treatment infrastructure, water supply and saving infrastructure, irrigation networks, flood protection projects - **Component 1.4.**
5. Promotion of smart cities - **Component 2.2.**

Finally, **Component 1.1. – Power up**, will promote Greece’s national target for the total phase-out of lignite by 2028 and the phase-out of oil, while introducing integrated support measures, including socio-economic and environmental rehabilitation measures, for the redevelopment of affected areas, ensuring a just transition.

Health, and economic, social and institutional resilience, with the aim of, inter alia, increasing crisis preparedness and crisis response capacity

The Regulation establishing the Recovery and Resilience Facility defines resilience as the ability to face economic, social and environmental shocks or persistent structural changes in a fair, sustainable and inclusive way.

First and foremost, the pandemic has revealed vulnerabilities in national health systems. Healthcare in Greece has been heavily afflicted by the previous economic crisis, hence long-term problems affecting the quality in health services’ provision have been exacerbated.

To address these challenges, **Component 3.3. Improve resilience, accessibility and sustainability of healthcare** promotes a set of structural reforms aiming to enhance efficiency of the national health system, achieve equal access to health services and ensure the system’s financial sustainability.

The component’s main building blocks include: (a) organisational reforms to rationalise the reimbursement of hospital medical procedures and establish a reliable performance framework related to patient care, health needs and care delivery; (b) a reform of the primary health system, introducing effective gatekeeping functions; (c) the renovation and upgrade of the infrastructure of the National Health System; (d) the digital transformation of healthcare; (e) a national public health prevention strategy, establishment of a home care system, and interventions in the fields of mental health and addiction; (f) the reform of the clawback system, to reduce the clawback in the medium-term and offset payments with R&D or investment expenses of liable companies in

the short-term. Overall, the component will contribute towards ensuring equal access to high quality health services, increased efficiency in services' provision, digital transformation of health services and the financial sustainability of the healthcare system.

The COVID-19 crisis also highlighted the importance of economic resilience. Resilient economies have the capacity to prevent economic shocks from having significant and persistent effects on income and employment levels, thereby smoothing economic fluctuations.⁷ More specifically, resilience relates to (i) vulnerability to shocks (ii) shock absorption capacity and (iii) ability to recover quickly after a shock.

Resilience is particularly relevant in the EMU, where policy instruments to address the effects of significant economic events are more limited. The experience of Greece in the last decade has, indeed, been one of a long and persistent downturn that has affected, as noted above, long-term growth, social cohesion and real convergence.

Prior to the onset of the COVID-19 pandemic, the Macroeconomic Imbalance Procedure had identified excessive macroeconomic imbalances in Greece related to high: 1) public debt, 2) negative international investment position (NIIP), 3) unemployment rate and 4) share of non-performing loans (NPLs) on banks' balance sheets.⁸ These legacy imbalances render the necessity of increasing shock-absorption capacity higher in Greece compared to other EU countries.

The Recovery and Resilience Plan contains reforms and investments aiming to increase Greece's capacity to absorb this and future shocks as well as facilitate the reallocation of resources to support a robust recovery.

Firstly, properly functioning and responsive labour market institutions can mitigate the effect of shocks on employment and cushion their impact. In this respect, **Component 3.1** increases the capacity of the labour market to close quickly employment gaps in the event of adverse shocks. This is achieved through the provisions of the reformed labour law and the revamping of Greece's active labour market policies (ALMPs) with a view to increasing labour market activation and participation. These are complemented by well-calibrated passive labour market policies, including an incentives-compatible framework of unemployment benefits that disincentivises inactivity and encourages employment-enhancing participation in upskilling/reskilling programmes.

Secondly, pro-cyclical fiscal policy can contribute to shock absorption. This requires government expenditure that is responsive to the cycle, including effective automatic stabilisers. This, in turn necessitates building of fiscal buffers during the upturn and introducing actions that promote the long-term sustainability of public finances. The plan contributes in these directions through a number of ways:

Component 4.1. - Making taxes more growth friendly and improving tax administration and tax collection is an extremely important component in the continued fight against tax evasion. This component also strengthens resilience by limiting the (mis)allocation of resources towards the informal sector and contributes to social resilience by rendering taxation fairer.

The component consists of many key reforms: the full codification of tax legislation to increase legal certainty and transparency; a new framework to combat smuggling in products subject to excise duty (tobacco, alcohol and energy); the adoption of additional measures and incentives to further increase electronic transactions; and implementation of a digitalised and automatic VAT

⁷ Economic resilience in EMU, Thematic discussions on growth and jobs, Note for the Eurogroup, 13/9/2017

⁸ CSRs 2019, Recital 3; CSRs 2020, Recital 2.

electronic refund procedure. In addition, and in conjunction with **Component 2.3.**, the component foresees the introduction of new-technology cash registers across the country connected on-line with the tax authorities. Last, but not least, the component includes an ambitious project to implement artificial intelligence in the design of tax audits. The above are complemented by 14 sub-projects for the digitalisation of the Independent Authority for Public Revenue (IAPR) necessary to implement the reform package and close the VAT and PIT gaps, limit lost revenue from smuggling, and reduce the administrative burden for taxpayers.

Component 4.2. - Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption aims to modernise Public Financial Management (PFM) framework. To that end, a new GOV-ERP system aims to digitalise the government's financial management and supervision structures. Among others, it will support spending reviews, which can promote efficient expenditure allocation and growth-friendly budgetary decision making. An additional reform included in this component aims at modernising the institutional framework for State Owned Enterprises.

Thirdly, financial markets can also play an important role in mitigating economic shocks, notably through access to credit, risk sharing on capital markets and use of savings.

Component 4.4. - Strengthen the financial sector and capital markets includes the new insolvency framework that will ultimately enhance adequate credit provision in the event of shocks, thereby increasing economic resilience by means of preventing the creation of credit crunch conditions. Further, the component foresees the creation of a Credit Bureau and a Central Credit Register in order to tackle existing information asymmetries and enhance access to credit. To ensure informed decision-making as regards access to credit, the component envisages the establishment of the Credit Expansion Observatory, and to prevent future over-indebtedness, the development of a monitoring registry for private debt.

In addition, **Component 4.4.** includes the strengthening of the Hellenic Capital Market Commission (HCMC), through the codification and modernisation of the regulatory and legislative framework for capital markets and the digitalisation of the internal processes and organization of the HCMC. These interventions will increase the effectiveness of supervision, ensuring the sound operation of capital markets in Greece and increasing investor trust. The ultimate goal is to complement bank financing with capital markets financing, and contribute to resilience by ensuring that viable firms have access to finance also during recessionary periods.

Fourthly, scaling up the tradable sector contributes to Greece's shock absorption capacity by diversifying output away from domestic demand and increasing its responsiveness to gains in competitiveness. To this effect, the financial incentives for private investments (**Component 4.7.**) will target projects promoting higher exports while part of the incentives regime for increasing the average size of enterprises targets the tradable sectors. These initiatives are complemented by actions for cross-border trade facilitation, the digitalisation and of the Economic Diplomacy Network, investment in the digital capacities of Enterprise Greece and training programs for exporters (**Component 4.6.**).

Finally, the sound operation of product and services markets and the increase in competition resulting from increased market entry leads to higher price flexibility, a prerequisite for adjustment to shocks, particularly in the context of a monetary union. The comprehensive reform to improve the business environment (**Component 4.7.**) will support both increased competition and the reallocation of resources by facilitating market entry business dynamics. It is joined by a set of reforms aiming to simplify procedures, ease administrative and regulatory burden on

businesses while enhancing regulatory certainty and quality, which will facilitate firm entry, investment and job creation. It includes, among others: extending licensing reforms to additional economic activities, codifying legislation, and reviewing quality policy (standardisation, certification, etc.) to address the challenges of green and digital transition.

Last, but not least, business dynamics will be reinforced by the new effective insolvency framework for the restructuring of debt (**Component 4.4.**), which unifies fragmented regimes into a single framework, creates a platform for data sharing, expands the e-filing process of legal documents, and introduces pre-approved automated restructuring procedures and resolutions.

Moreover, institutional resilience is a key determinant of the capacity to prepare for and react to crises. It also provides a solid foundation for implementation and sound operation of the aforementioned reforms and investments, and requires an efficient public administration and good governance. Most of the measures of the Recovery and Resilience Plan in this respect are contained in **Component 2.2.**, which encompasses the digitalisation of the public administration. They are, however, complemented by three important sets of actions.

Firstly, the flagship reform of **Component 4.2.** that modernises the public administration, including by streamlining the governance and allocation of responsibilities between levels of the administration, and invests in its human resources, by modernising hiring procedures, upskilling/reskilling, and introducing a reward system for public entities and civil servants.

Secondly, the actions of **Component 4.2.** that aim to increase transparency and fight corruption. They encompass (a) a comprehensive package of reforms and investments for the detection and prevention of corruption that pivots around the National Anti-Corruption Agency; (b) the strengthening of the legal framework for Anti-Money Laundering/Countering the Financing of Terrorism (AML/CFT), which is also key to ensuring financial resilience; and (c) combating illicit trade and protecting intellectual property rights, by means of strengthening the responsible agency, establishing an integrated IT control system for the management and control checkpoints to intensify audits also near borders.

Thirdly, **Component 4.3. - Improve the efficiency of the justice system**, which includes an ambitious agenda to improve the efficiency of the justice system, and promote resilience by ensuring better and faster contract enforcements, based on four pillars. First, a set of reforms that will accelerate the administration of justice, such as the establishment of an independent office for the systematic collection, processing and monitoring of data for the proper functioning of the judicial system (JustStat); and the evaluation of the spatial planning, organisation and administration of court buildings. Second, a comprehensive plan to introduce e-justice, including the upgrade of record keeping systems of the courts, the digitisation of archives, and the expansion of IT systems. Third, the building of new and upgrade of existing infrastructure, i.e. investment in buildings and the creation of an e-registry of judicial infrastructure. Fourth, investment in the reskilling and upskilling of judges and judicial staff, through the modernisation of the curriculum of the National School of Judges and investment in the training and lifelong learning in digital and other skills.

Policies for the next generation, children and the youth, such as education and skills

Component 3.2. Education, vocational education and training, and skills aims to increase long term employment and productivity through the acquisition of skills required for the green and digital transition and stronger links between education and the labour market. To that end, the

component includes reforms and investments across all levels of education, with a view to integrating these new skills in curricula, investing in digital technologies and research capabilities, introducing evaluation to track and improve educational outcomes, and promoting cooperation between education, research and business.

As regards primary and secondary education, the component features reforms and investments that lay a solid foundation for an inclusive digital education model in Greece. They cover the digitisation of the educational material and the integration of modern digital tools in schools, financial support to students to acquire the necessary equipment, and the (re)training of teachers in digital skills. This package of reforms and investments falls under the scope of a comprehensive reform strategy to update curricula, rationalise services and monitor educational outcomes.

As far as vocational education and training (VET) is concerned, the component foresees the implementation of a flagship reform. The main thrust of this reform consists of updating, upgrading and aligning the VET curricula with labour market needs, in particular digital, green or blue skills. Providing skills that are integral to the twin transitions is a necessary but not, in itself, sufficient condition to increase the effectiveness and attractiveness of VET for young people in Greece. So, in addition, the component foresees the upgrade and supply of laboratory equipment for the various VET units (IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools). Furthermore, the strategy extends to the apprenticeship vocational schools (EPAS) of the Public Employment Service (OAED), and in particular the strengthening of the apprenticeship system, updating the offered modules to increase their labour market relevance and establishing evaluation systems to monitor the outcomes of training.

Last, but not least, as regards higher education, the component includes interventions to foster cooperation between Greek universities and universities abroad, boost research activity in Greek universities and strengthen the link between higher education and the labour market. The envisaged reforms and investments will improve educational outcomes, increase the extroversion of Greek universities and the employability prospects of their graduates.

Among the actions included in the ***Component 3.4. Increase access to effective and inclusive social policies***, there are reforms and investments targeted to children and the youth.

A major reform is the design and introduction of a unified and comprehensive curriculum for preschool units. This will aim at the development of children through an integrated approach and focus on early intervention, including the use of psychotechnical tools for early diagnosis of learning and developmental disorders. The overall aim is to improve the preemptive interventions for such disorders, while supporting the children to reach their full potential and reducing the financial, mental and social costs of disorders. This reform is also linked to early intervention in children on the autism spectrum, which aims to create effective protocols to support psycho-emotional development and improve the quality of life and social inclusion of children.

Moreover, a strategic goal of this component is the deinstitutionalization of children and adolescents through: (a) an enhanced and modern program of transfer of adolescents to supported semi-autonomous living structures, and their further support with skills programs for their smooth transition to the labor market and society during their adulthood; and (b) the reform of vocational care that effectively improves the placement of children with disabilities in family environments.

At the same time, the component integrates the dimension of digital transformation through action regarding the integration of Technology and Science with STEM programs (Science, Technology, Engineering and Mathematics) in the Centers for Creative Employment. These

programs will be designed in order to be suitable for children from twelve to fifteen years old and support the parallel enhancement of children's digital skills.

Contribution of the components to the RRF pillars

<p>✓✓ = Main contribution ✓ = Complementary contribution</p> <p>Components</p>	RRF Pillars					
	<i>Green transition</i>	<i>Digital transformation</i>	<i>Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs</i>	<i>Social and territorial cohesion</i>	<i>Health, and economic, social and institutional resilience, with the aim of, inter alia, increasing crisis preparedness and crisis response capacity</i>	<i>Policies for the next generation, children and youth</i>
1.1 Power Up	✓✓		✓	✓		
1.2 Renovate	✓✓		✓	✓		
1.3 Recharge and refuel	✓✓		✓	✓		
1.4 Sustainable use of resources, climate resilience and environmental protection	✓✓	✓		✓	✓	
2.1 Connect		✓✓	✓	✓		
2.2 Modernise	✓	✓✓		✓	✓	✓
2.3 Digitalisation of businesses	✓	✓✓	✓			
3.1 Increasing job creation and participation in the labour market		✓	✓	✓✓	✓	
3.2 Education, vocational education, training, and skills		✓	✓✓	✓	✓	✓✓
3.3 Improve resilience, accessibility and sustainability of healthcare				✓	✓✓	

3.4 Increase access to effective and inclusive social policies		✓	✓	✓ ✓		✓
4.1 Making taxes more growth friendly, and improving tax administration and tax collection		✓	✓		✓ ✓	
4.2 Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption			✓		✓ ✓	
4.3 Improve the efficiency of the justice system		✓	✓	✓	✓ ✓	
4.4 Strengthen the financial sector and capital markets			✓		✓ ✓	
4.5 Promote research and innovation			✓ ✓			✓
4.6 Modernise and improve resilience of key economic sectors		✓	✓ ✓	✓	✓	
4.7 Improve competitiveness and promote private investment and exports	✓	✓	✓ ✓		✓	

European flagships

The Greek Recovery and Resilience Plan responds with coordinated investments and reforms to the structural challenges and weaknesses the country is facing, while it promotes the achievement of the European Flagship Initiatives, with tangible benefits for the economy and citizens, creating jobs and growth, that are necessary for the dual transition. The implementation of the European Flagship Initiatives will ensure the success of Greece's recovery, make Greece a digital and greener Member State and increase cohesion with other Member States.

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
Power Up (Contribution by Component 1.1.)	1. Shortcomings in RES penetration, due to congestion / limited network capacity 2. Limited onsite RES power generation at the building sector	1. Interventions for the electricity interconnection of islands and the upgrading of the electricity network 2. Installed capacity increase in HEDNO HV/MV substations for new RES connection based on the National Energy and Climate Plan (NECP) goals 3. Energy Storage Facilities (all technologies) investments 4. Revitalization actions of the most affected territories (Just transition territories) 5. HEDNO network upgrades aiming at enhancing resilience and protecting the environment 6. HEDNO overhead network upgrading in forest areas	1. Restructuring and enhancement of the RES CHP Account revenues following the Covid-19 contractionary impact on the Account balance 2. Simplification of licensing procedure for RES	The Greek RRP is expected to contribute to the flagship through: 1. the development and integration of at least 3GW of new RES capacity, facilitated by the proposed reforms 2. the installation of 1,38GW of energy storage capacity 3. the increase of installed capacity in existing HV/MV substations of the electricity distribution network by 800 MVA, allowing the integration of 1.755 MW of RES capacity in the network 4. the deployment of 150kV cables (c. 353 km of submarine cables and

⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:0575:FIN>

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
				c.20km of land cables) for the interconnection of the Cycladic islands and the estimated reduction of CO2 emissions (by 99.562 tonnes/year from 2025 and by 120.808 tonnes/year in 2030)
Renovate (Contribution by Component 1.2)	It is estimated that without a funding program (and no immediate national program in place for 2021-2022), housing energy upgrades will be around 8,000 per year, a very low performance to help improve energy efficiency.	<ul style="list-style-type: none"> 1. Energy renovation on residential buildings 2. Energy and entrepreneurship 3. Energy upgrade of public sector buildings and energy infrastructure of public entities 4. Interventions in residential areas and in the building stock 5. Olympic Athletic Centre of Athens 6. Infrastructure development and buildings' restoration in former royal estate in Tatoi 	<ul style="list-style-type: none"> 1. Preparation of Urban Plans in implementation of the urban policy reform 2. Energy poverty Action Plan 3. Establishment of new maritime spatial planning 4. Establishment of new special spatial planning for RES, industry, tourism, and aquaculture. 	By 2025, the energy renovation programme for residential buildings will contribute up to 15% to meeting the NECP target with annual energy savings of 210 ktoe.
Recharge and Refuel. (Contribution by Component 1.3.)	Zero charging stations for EVs in specific public areas.	<ul style="list-style-type: none"> 1. Electromobility (Charge in my city, Charge everywhere) 2. Produc- E Green 	1. Framework for installation and operation of EV charging infrastructure.	By 2025, more than 8000 electric vehicle charge points will be installed across the country, promoting cleaner transportation.
Connect (Contribution by Component 2.1.)	On 16/12/2020, the Hellenic Telecommunications & Post Commission (EETT) successfully completed the tender process for the granting of radio frequency usage rights in the 700 MHz, 2 GHz, 3400-3800 MHz and 26 GHz bands, with the aim of developing	<ul style="list-style-type: none"> 1. Small satellites - Develop a constellation of micro-satellites that will support geo-monitoring applications expected to increase the capabilities of the Greek high-technology industry 2. 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks. 	<ul style="list-style-type: none"> 1. Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand. 2. Transition to 5G technology, facilitating the development of innovative remote services. 	<p>By 2025 there is the widest possible uninterrupted 5G coverage for all areas.</p> <p>The Greek RRP is expected to contribute to the flagship through:</p> <ul style="list-style-type: none"> 1. the installation of fiber optic infrastructure in 120.000

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
	5th generation (5G) mobile communication networks.	3. Fibre readiness –Submarine fiber cables and Fiber optic infrastructure in buildings that is expected to to accelerate the adoption of next-generation infrastructure by citizens		residential and business private buildings 2. the deployment of modern submarine fiber cables (1.370 km) connecting mainland with the islands and the Republic of Cyprus 3. the development of 5G infrastructure into major Greek highways (1.918 km) – part of Trans-European Transport Networks 4. the development of a constellation of small satellites
Modernise (Contribution by Components 2.2., 3.1., 3.2., 3.3., 3.4., 4.1., 4.2., 4.3., 4.6, 4.7)	Digital Public Services Digital Transformation in various policy areas. In need of a wider open government schedule that will be enriched with new government commitments with horizontal roles through a collaborative process. Open Government Initiatives - Open data National Central Registry for open data, data.gov.gr. 10.587 data sets currently published. The need for digitalisation of public services, together with the need to secure digital infrastructures and promote cybersecurity capacity across both the public and private sector, is even more apparent. Interoperability - Enhancement of digital infrastructure of the State	1. Digitisation of archives and related services 2. CRM for the General Government 3. Further Modernisation of Public Administration’s One-Stop Shops 4. New system for Public Procurements 5. Digital transformation of the Ministry of Foreign Affairs 6. Digital Transformation of the Greek National Tourism Organisation 7. Interoperability and web services development 8. Data Classification Studies for Public Sector’s Information Systems 9. Next-Generation Interoperability Centre (KED) 10. E-Registries 11. Tourism Registry e-MHTE 12. Smart cities 13. Supply of Central Cloud Computing Infrastructure and Service	1. Towards Public Administration’s “customer”-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies 2. Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures 3. Interconnection and interoperability of registries, systems and services for data exchange between national public organisations 4. Incorporation of new technologies and trends towards Public Administration’s advanced services, increase of efficiency and effectiveness, and decrease of	The Greek RRP is expected to contribute to the ‘Modernise’ flagship through the implementation of a bouquet of reforms and investments aiming to the digital transformation of the Greek Public Sector and the improvement of its operational model, ultimately achieving the provision of enhanced, qualitative, interoperable, personalised and user-friendly digital public services to citizens and businesses. Concerning the national e-ID initiative, it should be pointed out that this will be funded by the Public Investment Program.

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
	<p>A so-far key weakness of Public Administration is the diversity of several registries across its authorities, where each entity is not identified in a unique way. In order to facilitate interoperable e-services across public sector, the consolidation of citizen records among several registries is required.</p> <p>G-cloud After I.4623/2019 and I.4727/2020 came into effect GSISPA became responsible for providing IaaS and SaaS services to almost all the public agencies whose central IT systems should be migrated to private, public or hybrid cloud infrastructure managed by the GSISPA.</p>	<p>14. Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET)</p> <p>15. Enhancement of Public Sector's Business Continuity</p> <p>16. Expansion of Syzefksis II</p> <p>17. Central BI - Data Analytics</p> <p>18. Central Document Management System</p> <p>19. Digital Transformation of Labour Systems</p> <p>20. OAED Digitalization</p> <p>21. Digital transformation of Education</p> <p>22. Digital Transformation of Health (DigHealth)</p> <p>23. Digital Transformation of the social support system</p> <p>24. Digital transformation of the immigration and asylum system</p> <p>25. Digital transformation of tax audits</p> <p>26. Digital Transformation of the Tax and Customs Administration</p> <p>27. Digital Transformation of Fiscal Management and Supervision in General Governance & Electronic Invoicing</p> <p>28. Modernise the Hellenic Consignment Deposit and Loans Fund</p> <p>29. Digital Transformation of the Hellenic Railways Organization</p> <p>30. Digital Transformation of the Agri-Food Sector</p>	<p>systems operating, upgrade and maintenance costs</p> <p>5. Data Governance strategy & policies for the Public Sector</p> <p>6. Reforming Public Administration</p> <p>7. Accounting Reform</p> <p>8. Digital Transformation of Justice (E-Justice)</p> <p>9. Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport</p> <p>10. Digitalization of Economic Diplomacy Network</p>	<p>Regarding the modernisation of the Tax and Customs Administration the following contributions should be noted:</p> <ol style="list-style-type: none"> 1. Reduction of the VAT tax gap by 1% after the year 2023. 2. Increase of revenues from personal income tax concerning business activities by reducing the personal income tax gap by more than 10% in the years 2024 – 2025. 3. Reduction in lost revenue from the fight against smuggling by at least 15% by 2024. 4. Increase in the collection of (non-performing) overdue debts by about 0,5% per year (after 2023). 5. Reduction of administrative costs for citizens by at least 30% (by 2024) and by 75% by (2026). <p>Regarding the modernisation of the Public Financial Management (PFM) framework the key contributions are the following:</p> <ol style="list-style-type: none"> 1. the modernization of the organization and administration of GAO and of

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
				<p>general government entities (GOV-ERP).</p> <p>2. the implementation of the accrual-based General Government Accounting Framework (GGAF), and</p> <p>3. e-Invoicing.</p> <p>As concerns the modernisation of Justice, the Greek RRP is expected to contribute to the following:</p> <p>1. Strengthen the effectiveness of justice and facilitating the daily lives of citizens through the digital transformation of the country's justice system, 2. Improve the quality of decisions with respect for the independence of justice and transparency for all and 3. Attract more investments, boost growth and increase Greece's economic resilience</p> <p>Additionally, the following contributions should be noted:</p> <p>1. Strengthening of the agriculture sector's growth potential</p> <p>2. Attraction of foreign investments and simplification of privatization procedures</p>

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
				<p>through smart infrastructure technologies</p> <p>3. Improved capacity, traffic management, reliability, energy efficiency, lower operating costs and enhanced transportation services.</p> <p>Furthermore, the projects proposed under the Digital Transformation of Health investment are expected to enhance and accelerate the development and adoption of appropriate, accessible, affordable, scalable and sustainable digital health (DigHealth) solutions that will prevent, detect and respond to epidemics and pandemics (i.e.COVID-19), and develop infrastructure and applications that will enable Greece to promote health and wellbeing. The innovative digital solutions can boost citizen's health and quality of life and enable more efficient ways towards organizing and delivering healthcare services.</p>
Scale-up (Contribution by Component 2.3.)	Digitalisation of businesses Various and fragmented actions that promote innovation who lack support by a constitutional unified body. Absence of a diagnostic	1. Digital Transformation of SMEs.	1. Establishment of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation	The Greek RRP is expected to contribute to the flagship through the provision of tax incentives and funding opportunities to more than

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
	<p>mechanism of evaluation of digitisation of SMEs.</p> <p>Artificial Intelligence</p> <p>Absence of a Strategic and Operational Plan for AI to define the vision and objectives being aligned with the EU strategy.</p>			100.000 SMEs for using advanced digital services and digital infrastructures, including cloud services, AI and big data
<p>Reskill and upskill.</p> <p><i>(Contribution by Components 2.2., 3.2., 3.4., 4.2, 4.3., 4.6)</i></p>	<p>Digital Skills</p> <p>Greece performs well below the EU average on the human capital chapter. In 2019, 51% of individuals between 16 and 74 had at least basic digital skills (58% in the EU), a good 5 percentage-point increase in one year, well above the average 1 percentage-point rise in the EU. The percentage of individuals with at least basic software skills is also rising well, from 52% in 2018 to 56% in 2019, rising faster than the EU average. The share of ICT specialists in total employment continues to improve at the same pace as the last three years but remains low (1.8%) compared to the EU average of 3.9%.</p> <p>Women in Digital</p> <p>The share of women ICT specialists in total female employment remains very low at 0.5% compared with the EU average (1.4%), though it did rise slightly by 0.1%, an improvement since it had</p>	<ol style="list-style-type: none"> 1. Digital skills upgrade programs for conscripts/ military service. 2. Digital transformation of Education 3. Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centres for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools 4. Skill building for creative and cultural professionals 5. Reskilling and Upskilling in Tourism 6. Promote integration of the refugee population into the labour market 7. Digital Transformation of the social support system 	<ol style="list-style-type: none"> 1. New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System 2. Strategy for Excellence in Universities & Innovation 3. Strengthening the Apprenticeship System 4. Labour force skilling, reskilling and upskilling through a reformed training model (Vocational Education & Training Reform) 5. Upgrading Vocational Education and Training 6. Skills and digital skills for judges and judicial employees (judicial staff) 7. Reforming Public Administration 	<p>The policies and measures proposed are expected to contribute to bridging the digital divide and reinforce basic digital literacy of the entire population. At the same time, there is a specific focus on the digital transformation of education that will enhance the digital skills of students aiming to reduce the share of 13-14 year old students who underperform in computer and information literacy. All digital programmes will take into account the participation of women and young girls, Moreover, both VET and apprenticeships systems are to be upgraded and become fully aligned with the current and future labour market needs.</p>

Flagship	Existing strategies/ targets	Investments	Reforms	Expected contribution to reaching EU objectives ⁹
	stagnated over the previous three years.			

Link with the European Semester

The National Recovery and Resilience Plan of each Member State should be consistent with the relevant Country Specific Recommendations (CSRs) identified in the context of the European Semester, as well as those identified in the most recent Council recommendations on the economic policy of the euro area.

The CSRs for years 2019 and 2020, invite Greece to continue the implementation of structural reforms and take all necessary measures to effectively address the COVID-19 pandemic crisis.

Specifically, **CSR 3 of 2020**, recommends Greece to front-load mature public investment projects and promote private investments to foster economic recovery. In combination with **CSR 2 of 2019**, they recommend focusing these investments on green and digital transition, all of which are covered by the following components of the National Recovery and Resilience Plan:

- Renewable energy and interconnection projects, and generally the clean and efficient production and use of energy (Component 1.1)
- Efficient use of energy in buildings and the renewal of urban areas (1.2)
- Safe and sustainable transport and logistics (1.3, 4.6)
- Environmental protection and infrastructure (1.4)
- Very-high-capacity digital infrastructure (2.1)
- The effectiveness and digitalisation of the public administration (2.2)
- The digital transformation of businesses (2.3)
- Employability (3.1). Investments in this component are also in line with **CSR 2 of 2020**, which invites Greece to mitigate the employment and social impacts of the COVID-19 crisis, including by implementing measures such as a short-time work scheme (Synergasia) and ensuring effective activation support.
- Education and skills, including digital (3.2)
- Health (3.3). Investments in this component are also in line with **CSR 1 of 2020**, in particular the subpart that invites Greece to ensure the resilience of the health system and ensure adequate and equal access to healthcare.
- R&D (Component 4.5)

The above investment-related policy takes into account regional disparities and the need to ensure social inclusion, as per **CSR 2 of 2019**, through:

- Ensuring a just transition in areas where lignite will be phased-out (Component 1.1)
- Increasing access to effective and inclusive social policies (3.4).

The remaining parts of the 2020 CSRs, namely:

- **CSR 1 of 2020**: Take all necessary measures, in line with the general escape clause of the Stability and Growth Pact, to effectively address the COVID-19 pandemic, sustain the

economy and support the ensuing recovery. When economic conditions allow, pursue fiscal policies aimed at achieving prudent medium-term fiscal positions and ensuring debt sustainability, while enhancing investments.

- **CSR 3 of 2020:** Swiftly deploy measures to provide liquidity and continued flow of credit and other financing to the economy, focusing in particular on SMEs most affected by the crisis.

are covered by the fiscal and liquidity support measures, as well as liquidity guarantee schemes, the government has introduced to mitigate the impact of the crisis. Some of these measures are already receiving EU funding under the SURE, ESIF, and the Coronavirus Response Investment Initiative (CRII) and CRII+ programmes. With regards to ensuring debt sustainability, as mentioned in **CSR 1 of 2020**, actions are already being taken in the context of the public debt strategy management, through successful liability management exercises; the strategic reduction of refinancing risks; the filling of the yield curve; extending the maturity of debt through targeted issuance of long-term bonds in an environment of very low interest rates; retaining a high level of cash reserves, above 30 billion euros, which covers the gross financing needs of the government for the next two years; as well as the early repayment of part of the IMF loans.

The National Recovery and Resilience Plan is also consistent with the challenges and priorities identified in the most recent euro area recommendations¹⁰ and the European Flagships identified in the Annual Sustainable Growth Strategy.¹¹

In particular, the National Recovery and Resilience Plan includes reforms linked to improving the business environment, the efficiency of the public administration, and the effectiveness of the justice system through component 2.1 (Connect), component 2.2 (Modernise) , component 4.2 (Modernise the Public Administration) and component 4.3 (Improve the efficiency of the Justice System). Reforms regarding the anti-money laundering framework, corruption and securing tax collection capacity are addressed through component 4.1 (Making taxes more growth friendly, and improving tax administration and tax collection) and component 4.2 (Modernise the Public Administration), which will enhance the AML/CFT framework, as well as modernize and digitalise the relevant infrastructures and databases. In this context, European directives have already been embedded in the Greek law to enhance transparency, expand the application of anti-money laundering and counter terrorism financing, such as through the transposition of the AMLD5 in October 2020 (Law 4734/2020 amending Law 4557/2018).

CSR 1 of 2019 and **CSR 4 of 2020** invite Greece to continue and complete reforms in line with the post-programme commitments given at the Eurogroup of 22 June 2018. Contents of the Recovery and Resilience Plan addressing these CSRs include:

- Improving and modernising the framework for labour law (Component 3.1)
- Establishing the National System of Vocational Education and Training (3.2)

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020H0723%2801%29> and https://ec.europa.eu/info/sites/info/files/2021_recommendation_for_euro_area_recommendation.pdf

¹¹ <https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1600708827568&uri=CELEX:52020DC0575>

- Rolling out the primary health care system and e-health – including an electronic Medical Health Record and telemedicine (3.3)
- Implementing the electronic filing of legal documents, completing phase II of the establishment of the e-justice system (OSDDY-PP) and the 'JustStat' unit for data collection and processing (4.3)
- Implementing reforms aimed at restoring the health of the banking system, including nonperforming loans resolution efforts by ensuring the continued effectiveness of the relevant legal framework (4.4)
- Completing the investment licensing reform, by finalising the simplification of procedures in the agreed remaining sectors and inspection legislation, and deploying the relevant ICT (4.7.)

Gender equality and equal opportunities for all

The National Recovery and Resilience Plan (NRRP) includes a set of proposals which aims to promote gender equality and ensure equal opportunities for all.

Gender equality

Two important challenges described in the country-specific recommendations of 2019 and 2020 concern the labour market participation of women. In 2019 the labour market participation rate of women in Greece was 51.3%, against 71.3% for men. Female labour market participation in Greece is one of the lowest among EU member states, and significantly lower than the European average (68.2%).

A key factor contributing to this significant gender employment gap is the fact that women devote a large percentage of their time to childcare and care of elderly parents, since unpaid care and domestic work are predominantly performed by women. Women in Greece are more likely to be unemployed than men, with 20% of women in the 25-49 age group remaining out of the labor market for childcare reasons.

At the same time, the options and benefits given to young parents for the care of their children are limited and differ significantly between the private and public sector, with paternity leave being a prominent example. Taking into consideration the shortage of childcare units, the participation of children up to three years of age in organized childcare units is extremely low, specifically 8.9%, compared to the European average of 32.9%. The corresponding percentage for children from three-years old to the age of compulsory education is also lacking behind the European average, with the percentage in Greece being 55.6% against the European average of 86.3%.

Given the above percentages and the limited childcare options, the effects of the Covid-19 pandemic on employment can probably result in further adverse impact on female labour market participation and employment. This could increase the existing gender gap in employment, increasing the economic dependency of women. Furthermore, there are indications that the pandemic has significantly affected the balance between work and family life for both parents.

In this context, the third pillar of the NRRP “Employment, skills, and social cohesion” includes policies and measures strengthening the work life balance for both genders, promotes female labour participation and ensures the smooth (re)integration of women in working life after having a child.

Participation and equal opportunities in the labour market

According to the Pissarides Report (November 2020) “low labour market participation in Greece is mainly affected by the low participation of women. Among women, the percentage of active population in 2019 is limited to 60.4% in Greece, compared to 68.5% on average in the Eurozone and 67.9% in the EU, with Greece being in the third lowest position in the ranking of countries (higher only compared to Italy and Romania). The low labour market participation of women

significantly reduces the country's productivity, as the average educational level of women who do not participate in the labour market is high".

Two key objectives of the third pillar of the NRRP are: (a) to reduce the gender employment gap; and (b) to ensure equal opportunities for women and young parents to remain in the labour market. The third pillar of the Plan facilitates meeting these objectives through the creation of new childcare units (with emphasis on places for infants and children up to 2.5 years old), and the creation of childcare facilities in private companies. These two interventions aim to increase the coverage and quality of childcare services, thus enhancing equal opportunities for women to remain in the labour market. At the same time, the creation of childcare units within private companies aims to gradually develop a culture enhancing work life balance and equal opportunities for the smooth reintegration of young mothers into the labour market.

Furthermore, the third pillar of the Plan includes the strengthening of the Equality Observatory of the Ministry of Labor and Social Affairs, in order to support data collection and data processing, with a view to better describe inequalities and discrimination. This will also facilitate assessment of progress made in the field of equality and equal opportunities for all. The third pillar also includes the development of an integrated mechanism for introducing the "Diversity Award" for companies and organizations that will be positively evaluated for adopting practices and policies promoting diversity. Finally, to enhance diversity awareness in the workplace, a training program on diversity in the working environment for employees in both the public and private sector is to be designed and implemented. The program's overall aim is to help transform the work culture across organisations and enterprises towards being more open and inclusive.

The third pillar of the NRRP also includes the creation of Centres of Creative Activities through Technology - STEM Centres for Children. To enhance the participation of girls in the activities of the centres, the Plan envisages provision of vouchers ensuring that 50% of the children attending the activities of the centres will be girls. Through this measure young girls will be encouraged to engage in technology and science. This will support girls to fulfill their potential and participate in sectors that are considered male-dominated. It will also help reverse gender-related stereotypes.

Development of care services

Care services, as an integral part of the social support and welfare system, are a key target for the third pillar of the NRRP. A central aim of the NRRP is to enhance the welfare of people with disabilities and the welfare of their families. To that end, a significant reform included in the NRRP is the introduction of the "Personal Assistant" reform. This is complimented by a comprehensive pilot program aiming to provide personal assistance to people with disabilities, with a view to support their social inclusion and integration into the labour market. The "Personal Assistant" reform can also contribute towards mitigating the undeclared work by persons providing similar services to persons with disabilities. At the same time, the third pillar of the Plan includes an innovative initiative to develop integrated support protocols for children with autism spectrum disorders (ASM), in order to further enhance interventions related to their mental and social development.

Both the previous economic crisis as well as the Covid-19 pandemic have exerted pressure on the social integration of the most vulnerable groups of the population, with an adverse impact upon social inequalities. The third pillar of the Plan includes a package of reforms and investments

aimed directly at combating inequalities for different groups which are vulnerable to poverty and social exclusion, while modernizing important welfare system tools to improve the performance of social protection systems.

Childcare and empowerment of the elderly

In relation to upgrading childcare services, the NRRP includes a reform for the design of a comprehensive curriculum and program for schools aiming at the cognitive development of infants from 3 months to 4 years, in order to prepare them for a smooth integration into primary education, along with tools for the early diagnosis of disorders (mainly disorders which are related to autistic spectrum disorders). This intervention aims to create equal access to care and programs for all infants. At the same time, it reduces the impact of economic and social inequalities on the development of children, enabling them to reach their full potential. The early diagnosis is itself a powerful preemptive measure that can help mitigate future limitations and costs related to interventions needed for children with disorders.

The creation of Creative Employment Centers for High School children with a focus on the fields of Science, Technology, Engineering and Mathematics (STEM) providing equal opportunities for all children to become acquainted with science and technology addresses the need to enhance the skills development of children and adolescents. Regarding digital skills, the third pillar of the NRRP includes a valuable program for the development of basic digital skills for the elderly. The program has a special focus on bridging the digital divide that may leave the elderly behind in the contemporary fast-paced technological world. It will help the elderly become acquainted with standard digital tools related to the e-services of the state, banking institutions etc. The program is an integral part of the country's active aging policies.

Finally, the third pillar of the NRRP includes programs aiming at deinstitutionalizing children and adolescents with disabilities through: (a) the placement of minors, with severe disability (over 67%) and/or severe mental disorders, in the care of professional foster carers and (b) the transfer of adolescents from Child Protection Units (CPUs) to Supported Independent Living apartments (SILs), while supporting their skills development. The transfer of adolescents to the SILs, in addition to deinstitutionalizing adolescents aged 15-18 years (20% of those living in child protection units), will also support their participation into social life and, later, into the labour market.

Employment and employability

A significant challenge for Greece according to the Pissarides Final Report (November 2020) is “increasing labour market participation, especially for young people and women, from 42% and 65% today, to the average of other small and open economies of the EU, amounting to 62% and 73% respectively”. The percentage of active population (primarily participating in the labor market) in the country is lower over time compared to European averages. During the economic crisis, the percentage of the employed population increased slightly in the last five years (68.4% in 2019), however the distance from the EU average (73.4%) widened even further. As a result, the country's position in the ranking of EU member states based on this index, fell from the 9th lowest in 2009 to the 3rd lowest in 2019.

Pillar 3 of the NRRP incorporates programs that strengthen both active and passive labour market policies, supporting the needs of different groups of the country's unemployed population in a targeted way. Active labour market policies include upskilling programs and subsidized employment matching the profile of the specific subgroups (young, middle-aged, long-term unemployed, etc.) with current needs of the labour market and the transition of the economy. The objective of effective active labour market policies is to enhance labour market participation and to support local / regional economies with a workforce that brings the relevant skills related to the green or blue economy. In the same context, passive labour market policies aim to streamline and adopt a more modern approach to employment benefit policy, removing all disincentives for the entrance into the labour market while addressing the needs of the long-term unemployed.

At the same time, the horizontal upskilling program for the entire working age population of the country ensures equal access to upskilling programs of high quality. The overall goal is to upgrade the country's workforce (public and private sector employees, self-employed and unemployed), enhance their employability and labour market mobility and create equal opportunities for skills development. This horizontal program aims to create a direct link between the upskilling programs and the current and future needs of the labour market, and to support and accelerate workforce development for the new economy -mainly digital, green and blue.

The unemployed beneficiaries of the Minimum Guaranteed Income are still 51% of the total population who benefit from the welfare system, increasing the need to be included in special interventions that will help them be integrated into the labour market, taking into account their educational profile and the time being unemployed. 23.14% of the unemployed beneficiaries of the Minimum Guaranteed Income aged 18-65 are high school graduates, while 19.4% are primary school graduates (December 2020 data), demonstrating the urgent need to include this population in training programs. Pillar 3 includes specific programs that encourage employment, create equal opportunities for labour market participation with a focus on the following populations: (a) adults with autism spectrum disorder; (b) beneficiaries of the Minimum Guaranteed Income; (c) homeless; and (d) Roma. These programs include training initiatives that are relevant to each target group and targeted measures that will support their employment. The aim of the programs is both to upgrade the technical and digital skills of the beneficiaries, and to motivate companies to hire candidates from groups that tend to be marginalized, mitigating the risk of exclusion, long-term unemployment and poverty.

The Plan presents a well-designed program for refugees and beneficiaries of international protection, aiming to the development of their skills, linguistic capacity and employability. The training program includes tailor made vocational training programs for the development of job-related skills and apprenticeships schemes that will ensure the labour market participation of beneficiaries, responding to key labour market needs in the areas where refugees live. At the same time, language learning will reduce the chances of economic and social exclusion.

Access to health and mental health services

The Recovery and Resilience Plan tackles another important inequality: that of access to health services. Among the EU27, Greece has the second largest share of people over the age of 16 who report uncovered needs from the health system (8.1%, 2019) for reasons of cost, geography or waiting time. One of the factors contributing to this is the poor functioning and accessibility of

primary health services. Thus, a primary objective of the proposed reform of primary health care is to cover populations that often fall outside the "safety net" such as the uninsured, island and remote areas population and vulnerable social groups. Further, the plan contains significant interventions in the area of public mental health services, given both long-standing trends and the increased demand during the pandemic, including new structures that will provide greater access to the mentally ill and people with dementia, while at the same time facilitating the work of caregivers. A set of measures for minors and young adults is proposed to fill significant gaps in access and social inclusion of younger patients and prevent stigmatisation. The plan also promotes the non-stigmatisation of patients recovering from Covid-19; and support to the unemployed following the pandemic.

Poverty reduction

In Greece, 12.5% of the population lives in houses with serious humidity problems, leaks and sub-standard frames and floors. In 2019, 17.9% of the total population stated inability to heat their home (average EU 7.3%) and this percentage rises to 34.1% among the economically vulnerable. Most houses in the country were built before the 1980s and 5 out of 10 do not include thermal insulation.

The plan, therefore, contains a targeted, landmark effort to alleviate energy poverty (Component 1.2.), that includes the new National Action Plan for Combating Energy Poverty, which will define, evaluate, and monitor the problem, acting as the basis for maximally effective future policies. However, there is also an urgent need for action in the short-term. Thus, the reform is combined with a dedicated sub-program for energy poor and vulnerable households within the investment for Energy renovation on residential buildings.

More specifically, the Action Plan will include both the definition of energy-poor households, through specific quantitative criteria, and a specific process for monitoring and evaluating the evolution of their situation. In addition, specific policy measures will be defined, in accordance with the requirements of Directive 944/2019 and Directive 2002/2018, and a specific process will be developed to monitor and measure the impact of each measure individually, in order to either redesign or adopt new policy measures, such as financial instruments for residential energy upgrades by vulnerable households and other social groups with specific patterns of electricity consumption.

The reform seeks to limit inequality, both directly - by raising living standards and reducing severe material deprivation, and indirectly - by generating substantial savings for financially vulnerable households -, while also promoting the energy efficiency of buildings. In short, this is a reform that contributes decisively to a just green transition.

Policies for disability

The Recovery and Resilience Plan proposes a comprehensive set of actions aiming to promote deinstitutionalization, social inclusion, and labour market participation of people with disabilities consistent with the National Action Plan for the Rights of the People with Disabilities (2020).

The first pillar of this set of actions focuses on accessibility, a key condition for social inclusion and labour market participation. Thus, Component 3.4 will support

interventions to enhance accessibility to private homes, workplaces and public buildings. It will also support the institution of personal assistance to disabled people, which can act in reinforcing ways in promoting social inclusion and employment opportunities. Furthermore, Programs, for people with reduced vision and / or hearing ability, the plan proposes support for basic digital skills programmes, designed to support their active participation in the new digital age and equal access to all state e-services. Finally, the integration of chronic disease management as part of the Primary Health Care reform is also expected to generate benefits for people with disabilities since, though not identical, chronic disabilities and chronic diseases often overlap. In addition, the establishment of a public home care system will increase access to quality health services.

The second principle underpinning the plan's proposals for disability is deinstitutionalization. In particular, for children and adolescents with disabilities the Plan foresees the institution of professional foster care and the transfer of adolescents to supported independent living apartments.

However, policies for children with disabilities go beyond deinstitutionalisation and emphasise early intervention. For children of autism spectrum diseases (ASM), the plan envisages the creation of integrated intervention protocols extending beyond the medical-centric model, fostering the mental and social development of children with autism, and contributing significantly to integration and inclusion. Finally, through actions for digital transformation of education in Component 3.2., special attention is given to bridging the digital divide gap for children with disabilities.

Acceptance of diversity

Diversity awareness in the workplace and the establishment of an inclusive work culture can significantly help combat discrimination of all kinds. Inclusion and diversity in the workplace, breaking down stereotypes and equal participation in leadership positions can guarantee a workforce that will help expand the labour market and strengthen an open, innovative and sustainable economy.

Diversity can promote the sustainable development of companies and the prosperity of the whole society, while at the same time it requires the cooperation and open dialogue of private sector, social partners, public entities and organizations. Data collection and data processing, also proposed through the strengthening of the Equality Observatory, will promote the provision of sufficient and reliable reports related to equality and discrimination, enabling relevant policy-making and the implementation of international best practices. At the same time, the creation of a mechanism that will evaluate companies and organisations taking into account their policies and actions towards the promotion of equal opportunities is also promoted, in order to develop the "Diversity Award". Additionally, a horizontal training program is proposed on issues related to diversity at work, with employees both of the private and public sectors and with priority given to public organisations that influence behaviors and social attitudes (e.g. police, services that serve citizens) and employees in positions of responsibility and active communication with the public. The main purpose of these interventions is to encourage the acceptance of diversity and to remove barriers in the labour market participation related to stereotypes and discrimination.

Coherence

Coherence within the plan (within components) and consistency with the relevant national policy frameworks, strategies and plans

Coherence within the Plan

Greece's Recovery and Resilience Plan presents strong internal coherence, following the provisions of the Regulation on the Recovery and Resilience Facility agreed between the European Parliament and the Council in December 2020 (2020/0104 (COD)).

The Plan is structured around four (4) distinct pillars ("Green Transition", "Digital Transformation", "Employment, skills and social cohesion", "Private Investments and Transformation of the economy") that operate as a **coherent whole** and are expected to generate **synergies** when implemented.

The green transition and digital transformation are acknowledged as highly interlinked processes, as detailed in the EU Green Deal and Digital Agenda, and in the Growth Plan for the Greek Economy (Pissarides' Committee Report). Digital transformation is a key enabler for the green and circular transition, while the inclusion of climate-related and sustainability criteria in the design and deployment of digital technologies has become a critical success factor for digital transformation.

But to ensure that the green transition and digital transformation will materialize, they have to be balanced with an ambitious strategy for boosting competitiveness and innovativeness in the national economy, through mobilizing investments from private and public sources and establishing an institutional framework that is conducive to business creation and growth. Similarly, the green transition and digital transformation need to be fair, incorporating the social dimension and prioritizing sustainable job creation, improvement of education and skills, and provision of high quality and effective health- and social-care services.

Consequently, the four pillars of the Plan are **significantly interlinked** in terms of their content, enhancing the coherence of the Plan, and the synergies and complementarities expected between its integral parts.

The coherence of the Plan is also ensured through its **driving commitment** towards the promotion and mobilization of private investments and the creation of sustainable employment positions, that **cuts across** the four pillars.

Whether in the area of renewable energy and energy efficiency improvement, of broadband network installation and digital services development, or of manufacturing, agriculture, tourism and culture, the Recovery and Resilience Plan emphasizes investment attraction and job creation, as critical conditions for the viable recovery of the national economy. The four pillars of the Plan exhibit consistency with these overarching principles, which in turn ensure the Plan's coherence.

Apart from the thematic coherence, the Recovery and Resilience Plan presents **clear and concise timetables, targets and milestones** for its Components and proposed projects, **indicators** used to

monitor the implementation of projects, as well as **specific measures and steps** needed in order to implement the projects – and the Plan as a whole.

The proposed milestones and targets for the reforms and investments included in the Plan are clear and realistic, in accordance with the relevant country-specific challenges and priorities identified in the context of the European Semester, as well as with analyses, argumentation and recommendations of the Growth Plan for the Greek Economy.

The same holds for the specific indicators proposed in order to follow the attainment of milestones and targets, which are relevant and robust, and anchored to the methodology used in the Pissarides' committee report and in other key national and EU strategies and plans. Therefore, the Plan is based on comprehensive analysis, and is also highly coherent internally and as a whole, facilitating its effective implementation.

At the same time, the Plan describes specific and concrete actions and steps needed in order to implement the reforms and investments proposed within it. The inclusion of the steps and actions provides a roadmap for implementation of projects (reforms and investments), while it also allows to identify and exploit potential synergies among them, strengthening the coherence of the Plan as a whole and its socio-economic impact.

Moreover, the Recovery and Resilience Plan details the **mechanisms for ensuring effective and timely implementation**, which contribute to the Plan's coherence as well.

First, the Plan introduces and describes in detail the Management and Control System set up by the Greek authorities, in order to: (a) ensure that the projects are implemented in alignment with the Plan, (b) actively monitor the implementation process and take remedial action when there are delays or discrepancies from targets, (c) ensure that implementation complies with the national and EU regulatory framework and that the RRF funds are used efficiently and effectively, and (d) report on the successful attainment of the agreed milestones and targets.

Second, the Plan precisely describes the main actors (authorities and bodies) that participate in the management, verification and control/audit of the implementation, delineating their roles and responsibilities, as well as how they intervene – independently and jointly – in the projects' lifecycle. The detailed description of the management and control mechanisms also contributes and advances the Plan's coherence.

Third, the Plan presents the procedures designed to ensure an adequate audit trail and specific arrangement for preventing, detecting and correcting irregularities, such as fraud, corruption, conflicts of interest and double funding. The inclusion of specific details on how each of the main issues encountered in control and audit is to be addressed in the context of implementing the Recovery and Resilience Plan, is a further indicator of internal coherence.

Therefore, the set of arrangements proposed to ensure effective monitoring and implementation of the Recovery and Resilience Plan, as well as control and audit in compliance to the national and EU regulatory framework, is clear and coherent, further enhancing the overall coherence of the Plan.

Finally, the Recovery and Resilience Plan is coherent from an economic perspective, as well. Detailed justifications are provided on the **estimated total costs of the Plan** and its Components, and of the reforms and investments included.

The disbursement requests follow a clear approach and methodology, which is detailed in the Plan, using criteria such as the maturity, cost efficiency and expected economic and societal impact to prioritize projects. These detailed descriptions also contribute in enhancing the coherence of the Plan.

Consequently, in all of the aforementioned aspects and dimensions, the Recovery and Resilience Plan of Greece is considered to be a highly coherent Plan, in compliance with the guidelines and recommendations of the Regulation (2020/0104 (COD)). The coherence of the Plan also ensures its effective implementation, and the realization of its potential for significant economic and societal impact for Greece.

Coherence between Components of the Plan

The coherence of the Recovery and Resilience Plan as a whole is also enhanced by the coherence and complementarity of its Components, which are integral parts of the Plan's four pillars ("Green Transition", "Digital Transformation", "Employment, skills and social cohesion", "Private Investments and Transformation of the Economy").

Each Component represents a **batch of reforms and investments** that are targeted in a specific priority area (e.g. energy efficiency, digital transformation in the public sector, healthcare reform etc.). These priority areas were identified following the relevant country-specific challenges and priorities in the context of the European Semester, as well as challenges and priorities highlighted in the Growth Plan for the Greek Economy (Pissarides' committee report) and in key national and EU strategies, plans and policy frameworks.

The Components present internal coherence and consistency, as the reforms and investments included in each focus on the same priority area, address common challenges and are expected to complement each other, and contribute jointly in the attainment of common goals.

Moreover, the coherence of the Recovery and Resilience Plan as a whole is ensured by the coherence and complementarity **between the Components**. Each Component is interlinked not only with the Components of the same pillar, but also with the Components of other pillars.

For instance, the Components 1.1 ("Power Up"), 1.2 ("Renovate") and 1.3 ("Recharge and Refuel") of the "Green Transition" pillar of the plan present important coherence, as they are expected to jointly advance the necessary energy transition of the country, and the attainment of the NECP and EU energy and climate goals for 2030.

At the same time, they operate in tandem with Components 2.1 ("Connect"), 2.2 ("Modernise") and 2.3 ("Digitalization of business"), as the green transition and the digital transformation are deeply intertwined, and synergies are expected from implementing the reforms and investments of these components.

Similarly, the Components 2.1, 2.2 and 2.3, related to the digital transition of the economy and society, are consistent and mutually supportive with the Components 4.2 (“Modernize the public administration”), 4.5 (“Promote research and innovation”) and 4.6 (“Modernize key economic sectors”). The digitalization of the public sector operates in tandem with its modernization, while the same holds for the relationship between the digitalization of business and the enhancement of the innovativeness, productivity and resilience of businesses.

The Components from the “Green Transition”, “Digital Transformation” and “Private investments and transformation of the economy” pillars that aim at boosting investment activity and mobilize private and public funds, are highly coherent and complementary with the Components 4.1 (“Improving tax administration and collection”), 4.2, 4.3 (“Improve the efficiency of the justice system”) and 4.4 (“Strengthen the financial sector and capital markets”). The latter Components establish an institutional framework that is conducive to investment attraction and to business creation and growth, complementing and facilitating the reforms and investments of the former Components.

In addition, the Components from the “Green Transition”, “Digital Transformation” and “Private investments and transformation of the economy” pillars that aim at boosting investment activity in various domains, are highly coherent with the Components 3.1 (“Increasing job creation and participation in the labour market”) and 3.2 (“Education, vocational education, training and skills”). The complex projects proposed in the Plan require adequate and competent workforce in various occupations and roles, while dynamically growing sectors create new sustainable employment positions and can absorb educated and skilled individuals that complete education or training.

Finally, Components in all four pillars that aim at promoting growth and competitiveness in the national economy, as well as sustainability and employment, are coherent and consistent with the Components 3.3 (“Improve resilience, accessibility and sustainability of healthcare”) and 3.4 (“Increase access to effective and inclusive social policies”) that ensure social resilience and access of all citizens to high-quality and effective health- and social care services.

As a result, the Components included in the Recovery and Resilience Plan present **strong coherence and consistency** between them, as well as multiple complementarities and synergies in their implementation, thus contributing to a highly coherent Plan as a whole.

Consistency with relevant national policy frameworks, strategies and plans

The Recovery and Resilience Plan is part and parcel of the National Plan of Government Policies (NPGP) 2021. As an institutional tool, the NPGP was first issued in 2020 and it is publicized on an annual basis, as the law provides, presenting the Government’s binding overall policy plan for the forthcoming year as well as the rationale that underlies it. The NPGP is authored by the Presidency of the Government in close collaboration with the ministries. The 2021 edition, submitted in December 2020, already includes most of the proposed RRP policies and the very few that were still under consideration then, will be added to the NPGP upon its regular mid-year revision.

The same applies for the specific connection of the RRP reforms with the National Reform Plan (NRP). The NRP acted as a point of departure for the RRP list of reforms which emerged after only necessary adaptation. The NRP reforms contain or, often, fully identify with the proposed RRP reforms. In fewer instances the RRP reforms are broader than the

corresponding national ones, covering more fields. Overall, reforms that are listed only in the RRP and are new to the NRP, may range between 5-10% of the NRP (less than 15 reforms). They, too, will be added to the NRP on its regular revision.

The Recovery and Resilience Plan, and its Components, are fully aligned to the goals, priorities and policy and reform recommendations of other national plans and initiatives, operating as complements and contributing jointly to the attainment of broader economic and societal goals.

Consistency with the National Energy and Climate Plan

The Recovery and Resilience Plan aims at facilitating the necessary transition in Greece, through incorporating the strategic priorities and the specific targets of the NECP, as well as the related recommendations of the European Commission on how the RRF can be leveraged for attaining the climate and energy targets for 2030 and beyond. The key objectives of the Greek Recovery and Resilience Plan, and the reforms and investments designed to achieve them, are in alignment with the objectives and policy priorities and measures included in the NECP, with the former being expected to enable a swift delivery of the targets, objectives and contributions set out in the latter.

The “Green” Transition” pillar of the Plan, and its Components, reforms and investments, enable the transition towards a low-carbon energy system, with increased participation of RES in energy consumption, improved energy efficiency of the domestic building stock (household, public and commercial buildings), and a “greener” and more sustainable transport system (with emphasis on the use of electromobility and electric vehicles). These priorities are fully aligned with those set out in the NECP, and the related reforms and investments included in the Plan aid in attaining the respective targets and objectives of the NECP.

At the same time, the Components related to climate mitigation and adaptation for the urban and built environment, to promoting sustainable urban mobility in urban areas, to environmental protection and sustainable use of resources, are also aligned with the NECP targets for reducing carbon emissions, and for facilitating the required transition towards climate neutrality by 2050, as highlighted in the EU Green Deal Strategy.

Apart from the “Green Transition” Components, the rest of the Recovery and Resilience Plan is also consistent and aligned to the strategic objectives, targets and policy priorities of the NECP.

The Recovery and Resilience Plan, as a coherent whole, contributes in an holistic manner to the attainment of the NECP goals for reducing GHG emissions, improving energy efficiency and increasing the RES share in the energy mix by 2030, promoting at the same time socio-economic development, with attraction of new investments, creation of new employment positions, and enhancement of the competitiveness and innovativeness of the national economy – with the latter objectives being particularly relevant in the post-COVID context.

Consistency with the National and Territorial Just Transition Plans

The commitment of the Greek Government for complete phase-out of lignite-fired power generation by 2028 creates multiple economic and social challenges for the coal- affected areas (Western Macedonia and Megalopolis), and the need for a balanced and sustainable development model.

To ensure the economically and socially just transition of these areas, the Government adopted the National Just Transition Plan, a comprehensive strategic plan with a mixture of interventions and measures for the economic and productive diversification of the coal-affected areas, set in the wider context of the NECP, the EU Green Deal Strategy and the Energy Roadmap for 2050. The National Just Transition Plan constitutes input for the preparation of the Territorial Just Development Plans for Western Macedonia and the Municipality of Megalopolis, in accordance with the requirements of the Proposal for a Regulation establishing the Just Transition Fund, as well as the Territorial Just Transition Plan for the islands and their decarbonization.

The Recovery and Resilience Plan is aligned with the objectives and priorities presented in the National and Territorial Just Transition Plans and facilitates the just and viable socio-economic transition of the coal-dependent areas through dedicated reforms and investments.

The “Green Transition” pillar, and specifically Component 1.1, includes investments for the restoration, rehabilitation and upgrading of lignite zones in Western Macedonia and Megalopolis, in order to accommodate new uses according to the five growth pillars detailed in the Just Transition Plan: (i) Clean Energy, (ii) smart agricultural production, (iii) Sustainable Tourism, (iv) Industry, handicrafts and trade, and (v) technology and education. These works are expected to create new jobs for the local workforce, as well as a range of novel growth opportunities.

Also linked to the objectives and priorities of the National and Territorial Just Transition Plans are reforms and investments in other Components from all four pillars of the plan, independently and jointly supporting the just socio-economic transition and revitalization of the coal-affected areas, the attraction of investments and the creation of new jobs, and the advancement of social cohesion and living standards for citizens, inhabitants and visitors of these areas.

Consistency with the Growth Plan for the Greek Economy (Pissarides’ Committee Report)

The Growth Plan for the Greek Economy, drafted by the independent committee formed by the Greek Government and headed by Professor Christopher Pissarides, constitutes a comprehensive plan for the development of the national economy. The report of the Pissarides’ committee provides an in-depth analysis of domestic and global economic trends, and recommendations on reforms and policies that can foster growth, competitiveness and employment, while at the same time ensuring social cohesion and improved living standards for all citizens.

The Recovery and Resilience Plan is anchored to the objectives and priorities set out in the Growth Plan for the Greek Economy. Moreover, the Components of the Plan are fully aligned with the policy and reform recommendations of the Pissarides’ Committee Report and aim at facilitating and fast-tracking them.

The “Green Transition” Pillar incorporates the priorities of the Pissarides’ committee report for paving the path towards climate neutrality by 2050, and for meeting the NECP and EU targets for 2030. These priorities include the modernization of the energy system and the gradual phase-out from fossil fuels, the shift towards RES and “clean” energy, the energy renovation of the domestic building stock, the modernization of urban and spatial planning, and the promotion of e-mobility and sustainable transportation.

Similarly, the Pissarides’ committee report acknowledges the importance of better protection and restoration of the natural environment and biodiversity, of optimal use of the natural resources

(including water), of enhancing the resilience of ecosystems towards climate change and natural risks, and of promoting sustainable waste management and transition towards circular economy. These priorities are addressed by the reforms and investments of the “Green Transition” pillar of the Recovery and Resiliency Plan, and so do the objectives and recommendations of the NECP and of the National Strategies for Climate Change Adaptation, Circular Economy, Forests and Biodiversity.

The “Digital Transformation” pillar reflects and responds to the argumentation and recommendations of the Pissarides’ committee report for digitalizing and modernizing the public and private sectors in Greece. The priorities of increased connectivity to very-high-capacity networks and of installing and operating new generation networks are thoroughly analysed in the Growth Plan for the Greek Economy and addressed via the Components of the Plan.

The same holds for the modernization and digital transformation of the public administration and the provision of qualitative public services to citizens and enterprises, and for the improvement of technology readiness and digital skills of enterprises, which are also prioritized in the Pissarides’ committee report as growth and productivity drivers, and are addressed and facilitated through the reforms and investments promoted by the “Digital Transformation” pillar of the Recovery and Resilience Plan.

The “Employment, skills and social cohesion” pillar internalizes and respond to the analysis and recommendations of the Pissarides’ committee report on new job generation, increase in labour productivity and participation in the labour market, upgrading of the national education, training and skill formation systems, and modernization and improvement of accessibility to high-quality and efficient health- and social care services.

The Recovery and Resilience Plan reflects the aforementioned priority areas and objectives of the Pissarides’ committee report, and seeks to address them via coherent batches of reforms and investments, aiming at strong socio-economic impact.

Finally, the “Private investments and transformation of the economy” pillar follows the analyses and recommendations of the Growth Plan for the Greek Economy for boosting growth through reforms in the tax and public administration, and in the justice system and capital markets, through enhancing the innovativeness and export orientation of businesses, and through making key sectors of the national economy more resilient.

In particular, Components of this pillar reflect and respond to priorities highlighted in the report for strengthening the public administration and tax-collection services, improving the efficiency of the justice system, making the financial and capital markets operate more efficiently, and addressing issues related to private debt management

Similarly, Components of this pillar address, through dedicated reforms and investments, the recommendations of the Pissarides’ committee report for strengthening the links between entrepreneurship and research and innovation, for enhancing the productivity, competitiveness and resilience of key sectors of the national economy - tourism, culture, manufacturing, agriculture and transportations and logistics – and for providing incentives to private enterprises to scale up and become more competitive and export-oriented.

· **Consistency with the Partnership Agreement for the Development Framework**

The Greek Recovery and Resilience Plan is designed to operate in consistency, complementarity and synergy with the new Greek Partnership Agreement for the Development Framework for the 2021-2027 Programming Period, and its sectoral and regional programs. On the one hand, the Plan incorporates the strategic directions, objectives and priorities of the new Partnership Agreement, while on the other hand it draws from and builds on the outcomes and the experience from implementing the Partnership Agreement for the previous period (2014 – 2020). It also draws from and builds on the outcomes from implementing the Along with the Common Agricultural Policy, the three instruments contribute the bulk of investment funds to be deployed in the Greek Economy in the following nine years.

The new Partnership Agreement for the 2021 – 2027 Programming Period is structured around 5 (five) key Policy Objectives (PO) and a Special Objective linked to the Just Transition Fund, which are highly consistent with the strategic priorities, the goals and the respective Components of the Greek Recovery and Resilience Plan.

In more detail, the **Policy Objective 1** – “A smarter Europe through the promotion of innovative and smart economic transformation and regional ICT connectivity” is directly linked to the “Digital Transition” and “Private Investments and Transformation of the Economy” priorities of the Recovery and Resilience Plan, with an aim at systematically enhancing the productivity and extroversion of the national economy, as well as the links of production with technology and innovation.

The Plan promotes reforms and investments for broadening the connectivity of households and enterprises to high-capacity-networks, for developing and operating new generation networks, for the technological and digital upgrading of small and medium-sized enterprises (SMEs) and enhancing their digital skills, and for the modernization and digital transformation of the public administration, which also constitute priorities for the Policy Objective 1 of the new Partnership Agreement. The same holds for reforms and investments for strengthening the links of production with research and innovation, and for enhancing the productivity, competitiveness, resilience and extroversion of private enterprises, which are also aligned to the Policy Objective 1, with strong complementarity of the respective actions.

The **Policy Objective 2** - “A greener, lower carbon and resilient Europe through the promotion of clean and just energy transition, green and blue investments, circular economy, climate change adaptation and the risk prevention and management” prioritizes the necessary “green” transition for Greece, and the effective adaptation to climate change and mitigation of its impact. The PO2 is directly linked to the Recovery and Resilience Plan, and its “Green Transition” priority, also incorporating and specifying the objectives and priorities of the EU Green Deal Strategy and the National Energy and Climate Plan (NECP).

The Plan promotes reforms and investments for increasing the penetration of RES in the energy mix, for upgrading and digitalizing the power transmission and distribution networks, for gradual decarbonization of the energy system, for improving energy efficiency of the domestic building stock and for promoting electromobility and sustainable transportations. These investments and reforms are highly consistent with the objectives and the priorities of the Policy Objective 2 and are expected to operate synergistically and contribute jointly to the attainment of related national and EU targets.

The Plan also includes reforms and investments for the protection of the natural environment and the sustainable management of the natural resources, for enhancing the resilience of natural and urban ecosystems, and for effective management of solid and liquid waste, all in alignment with the Policy Objective 2 of the new Partnership Agreement.

The **Policy Objective 3** - A more interconnected Europe through enhancing mobility and regional connectivity aims to support the development of accessible, climate resilient, intelligent, secure and intermodal transportation infrastructures at the local, national and regional levels and to promote sustainable urban mobility.

The “Digital Transformation” pillar of Recovery and Resilience Plan promotes investments for the increased connectivity of households and businesses in very-high-capacity broadband networks, and for the installation and operation of new generation networks. The “Private investments and transformation of the economy” pillar advances investments for the completion and interconnection of infrastructures for passenger and commercial purposes at the local, national and regional levels, for the continuous control and maintenance of infrastructures and their modernization with new user-friendly services, and for the enhancement of road safety. The “Green Transition” pillar, finally, promotes sustainable transportations, and the greater use of environment-friendly transportation types. Consequently, reforms and investments in these three pillars are aligned and supportive to the priorities of the Policy Objective 3.

The **Policy Objective 4** - A more social Europe through the implementation of the European pillar of social rights has as its main goal to ensure equal access to quality services and goods for all citizens, and to invest in human resources.

Through its “Employment, skills and social cohesion” pillar, the Recovery and Resilience Plan promotes action for boosting employment creation, for improving the long-term employability and productivity of the local labour force - through strengthening the higher education, vocational education and training and skill formation systems, for increasing the efficiency, accessibility and financial sustainability of the healthcare system, and for modernizing the social care and solidarity mechanisms, and ensuring equal access of all citizens, including the most vulnerable ones, to quality social services. The reforms and investments of this pillar are directly linked to the Policy Objective 4 and its priorities and objectives and are expected to operate as complement with the actions financed and facilitated through the new Partnership Agreement.

The **Policy Objective 5** – “A Europe closer to its citizens, through the promotion of sustainable and integrated development of urban, rural and coastal areas, as well as through the support of local initiatives” promotes the implementation of integrated territorial strategies, with utilization of tools such as the Integrated Territorial Investments and the Community-Led Local Development Initiatives, deployed in areas selected along their needs and characteristics (growth prospects, environmental challenges, socio-economic pressures etc.).

The Recovery and Resilience Plan also promotes the sustainable territorial development, with investments and reforms included in the “Green Transition” and “Private Investments and transformation of the economy” pillars interacting with and supporting the objectives of the Policy Objective 5 and the new Partnership Agreement. In that way, the priority of the Policy Objective 5 on integrated territorial strategies cuts across the pillars of the Recovery and

Resilience Plan, and different Components and batches of reforms and investments of the Plan operate in tandem and complement with the priorities and actions of the Policy Objective 5.

The **Specific Objective** for the Just Transition Fund focuses on the just and viable transition of the coal-affected areas of Greece – the Western Macedonia Region and the Municipality of Megalopolis – that are directly impacted by the national strategy for complete phase-out of lignite-fired power generation by 2028. The Specific Objective of the Partnership Agreement complements the related objectives, priorities and policy measures of the NECP, which specifies the national target to completely phase-out lignite by 2028, and of the National and Territorial Just Transition Plans, which constitute a detailed roadmap for the just socio-economic transition of the coal-affected areas.

The Recovery and Resilience Plan proposes investments in restoring the mine lands in Western Macedonia and Megalopolis, as part of the broader targets set out in the NECP and the Just Transition Plan for productive and environmental revitalization of the coal-affected areas and for the development of new land uses that can accommodate and support differentiated activities. In that direction, the Plan and the specific investments complement the Special Objective of the new Partnership Agreement, and the actions to be implemented through it.

Consistency with the Youth Guarantee Implementation Plan

Youth unemployment constitutes one of the chronic deficiencies and major political, economic and social challenges for Greece, with permanent significant impact on social cohesion. Greece submitted its Youth Guarantee Implementation Plan in 2014, in the middle of the economic crisis, while recording the highest rates of unemployment in EU (approx. 60%), followed by a massive “brain-drain” of young people. Currently, and despite a significant decrease, the rate of youth unemployment remains far and significantly exceeds the EU average (34% in November 2020).

The **Greek Youth Guarantee Implementation Plan (GYGIP)** was presented in December 2013 and updated in June 2014, based on the national strategy laid out in the "Partnership Agreement for the Development Framework, 2014-2020" and the "Action Plan for Creating New Jobs and Supporting Unemployed People". It included actions targeted to young people aged 15-24, who did not work or participate in educational or training programs.

Tackling unemployment and creating new, sustainable jobs, particularly for younger individuals, is a key priority and objective for the Greek National Recovery and Resilience Plan and its pillars. The pillars of “Green Transition”, “Digital Transformation” and “Private investments and transformation of the economy” comprise investments and reforms which contribute directly and indirectly to job creation, while the pillar of “Employment, skills and social cohesion” is by definition directly linked to enhancing youth employment, and interacts with the Youth Guarantee Implementation Plan.

Reforms and investments included in the “Employment, skills and social cohesion” pillar, aim at increasing long-term employment, employability and labour productivity through labour market reforms, modernization of active and passive labour market policies (including measures targeted to the young unemployed individuals), upgrading the mechanisms for diagnosis of labour market needs, and reforming and digitalizing the Public Employment Service (OAED). These reforms and investments are directly related to the goals and priorities of the National Youth Guarantee Implementation Plan, and complement its activities, while they are

expected to operate as complements in mitigating the employment and social impact of the COVID-19 pandemic.

Another batch of reforms and investments included in the same pillar, aims at increasing long-term employment and labour productivity, through modernizing and upgrading the national system for education, vocational education training (VET) and skill formation (skilling, reskilling, upskilling). These reforms and investments are expected to address the supply/demand mismatch in labour markets that affects primarily the young and unemployed, and to better equip them with the necessary skills and competencies for long-term, sustainable employment.

In that way, the Recovery and Resilience Plan is directly linked to the educational-and-traineeship aspect of the Youth Guarantee Implementation Plan, also complementing actions advanced in the context of the latter and jointly contributing to improvement youth employment rates.

Digital Transformation Bible 2020 – 2025

The Digital Transformation Bible 2020 – 2025 details the strategy of Greece for transition to the digital age, through a set of horizontal and vertical policy interventions that will foster the digital transformation of the Greek society and economy. In addition, it introduces a new model for digital governance, with novel, enhanced mechanisms for the design, implementation and monitoring of digital projects.

The Recovery and Resilience Plan places the digital transition at the epicentre of changes that will unleash the dynamics of the economy and contribute to strong, sustainable growth. Through targeted reforms and investments, the Recovery and Sustainability Plan promotes the expansion of connectivity of households and business to high-speed and capacity broadband networks, the installation of new generation networks across the country, the digital transformation and modernization of the public sector, and the technological and digital upgrading of businesses, and the enhancement of their technology readiness and digital skills. These reforms and investments are fully aligned with the objectives and priorities of the Digital Transformation Bible, and the two are expected to operate in tandem, through synergies that would advance the common goals.

National Research and Innovation Strategy for Smart Specialization 2014 - 2020

The National Research and Innovation Strategy for Smart Specialization was formulated in the context of the “Europe 2020” Strategy of the European Commission, and of the Cohesion Policy for the 2014 – 2020 Programming Period. The goal of the National Smart Specialization Strategy is the productive restructuring of the country, with research, technology and innovation as key drivers, to address regional inequalities and spur long-term employment. Today, an updating process is underway to better adapt the Strategy to the needs and the priorities of the new Programming Period (2021 - 2027).

The Recovery and Resilience Plan is directly linked to the goals and the priorities of the National Smart Specialization Strategy, incorporating the results and experience from its implementation. The Recovery and Resilience Plan advances reforms and investments for enhancing research and innovation in the educational system, as well as for strengthening the links of entrepreneurship and production with scientific knowledge and innovation, in accordance with the priorities and objectives of the National Smart Specialization Strategy.

In addition, there are several priorities shared by the National Research and Innovation Strategy for Smart Specialization and the Recovery and Resilience Plan, and supported through reforms and investments of the latter, including the energy transition and overall upgrading of energy infrastructures, the enhancement of the resilience of natural and urban ecosystems towards climate change, and the boost in productivity, competitiveness and resilience of key sectors for the national Economy, such as culture, tourism, agriculture, manufacturing and transportations – logistics.

National Strategy for Higher Education (2016 – 2020)

The National Strategy for Higher Education reflects the strategic priorities and objectives of the country with regards to its Higher Education system, the organization and functioning of academic institutions and bodies, the framework for their networking and extroversion, and more broadly the responsiveness to the needs of students, of the society and of the economy.

The Recovery and Resilience Plan, through its “Employment, skills and social cohesion” pillar, incorporates the priorities and objectives of the National Strategy for Higher Education and prioritizes reforms and investments for improving the Higher Education system, the operation of academic institutions, and their teaching and research activities. In addition, the Recovery and Resilience Plan aims at strengthening the links of entrepreneurship and production with scientific knowledge, technology and innovation, in consistency with the emphasis placed by the National Strategy for Higher Education in linking education, research and production.

National Integration Strategy

The National Integration Strategy is a comprehensive plan for the integration of third-country nationals, taking into account the developments of recent years at the local, national, regional, EU and international level, the needs and capacities, and the compliance with the EU values and principles framework.

The Recovery and Resilience Plan incorporates the guidelines and objectives of the National Integration Strategy, and responds through interventions for facilitating the social inclusion of immigrants and beneficiaries of international protection, through introducing them in the labour market and providing to them specialized services regarding skills diagnosis, consulting, training and reskilling/upskilling. Moreover, it promotes the digitalization of migration system processes and of the archives of the Asylum Service, to improve control over migration flows and achieve faster inclusion of legal migrants, asylum-seekers and refugees, in alignment with the priorities of the National Integration Strategy.

· National Action Plan for the Rights of Persons with Disabilities

The National Action Plan for the Rights of Persons with Disabilities was formulated and adopted in 2020 and constitutes a comprehensive roadmap for the coordination and monitoring of all actions and policies regarding the rights of persons with disabilities.

The Recovery and Resilience Plan is consistent with the National Action Plan for the Rights of Persons with Disabilities, and advances reforms and investments that improve living conditions and accessibility to critical services, as well as the inclusions into the society and labour market. These reforms and investments broaden the accessibility of persons with disabilities in important

services, advance deinstitutionalization of children and adults with disabilities, and focus on the provision of direct and effective social care services to them. In addition, the Recovery and Resilience Plan includes reforms and investments for improving the skills, the employability and the sustainable employment of persons with disabilities, in order to achieve their integration in the labour market. This batch of reforms and investments complements the actions and policies included in the National Action Plan for the Rights of Persons with Disabilities, jointly contributing to achieving common goals.

National Transport Strategic Plan

The National Transport Strategic Plan provides the basis for sustainable transport infrastructure and service development in Greece over the medium to long term, which will contribute to the competitiveness of the transport sector of the country.

The Recovery and Resilience Plan is highly consistent with the National Transport Strategic Plan, as it acknowledges the importance of developing modern, sustainable, accessible and climate change resilient transport infrastructures. Through dedicated investment, the Recovery and Resilience Plan aims to facilitate the development of required infrastructure at local, regional and international level, interconnecting all areas in the country, and improving the mobility of citizens and goods. At the same time, the Recovery and Resilience Plan advances road safety and promotes the shift towards sustainable urban mobility in cities and metropolitan areas and towards more sustainable and environment-friendly transportation modes. The reforms and investments included in the Recovery and Resilience Plan are expected to operate in synergy with the projects included in the National Transport Strategic Plan, and jointly contribute towards the attainment of common objectives.

National Plan for Crisis Management and Hazard Mitigation

The National Plan for Crisis Management and Hazard Mitigation introduces a comprehensive package of activities for the coordination and implementation of interventions for effective and timely management of crises from all the involved operational, executive and support structures, with an aim at effectively managing adverse situations, due to natural, technological or other disasters and/or threats.

The Recovery and Resilience Plan acknowledges the enhancement of resilience against threats and risks of any kind as a crucial element of economic and societal development and progress. As a result, it fully incorporates the strategic guidelines, objectives and detailed targets of the National Plan for Crisis Management and Hazard Mitigation. In more detail, it promotes, through dedicated investments, the improvement of the resilience of natural and urban ecosystems to climate change and natural risks, as well as the consolidation of civil protection mechanisms and their operation, and of the early warning and response mechanisms.

Moreover, the Recovery and Resilience Plan embraces the objectives and recommendations for more effective management and mitigation of risks related to public health, and to the technological, energy and transport infrastructures and networks in Greece. In that way, the two plans operate as complements, enhancing resilience towards all potential risk factors.

Coherence between reforms and investments

Greece's Recovery and Resilience Plan reflects a substantive reform and investment effort. **Each Component encompasses reforms and investments** that are coherent, reinforcing and complement the impact of one another and help address the relevant country-specific challenges and priorities in the context of the European Semester, as well as challenges and priorities highlighted in the Growth Plan for the Greek Economy (Pissarides' committee report) and in key national and EU strategies, plans and policy frameworks.

Component 1.1 Power up

The aim of the reforms of the Component is to contribute to the climate and energy plans through investments and reforms that intend to accelerate the development of renewables as well as their integration through upgraded networks and enhanced interconnectivity.

The reform *“Restructuring and enhancement of the RES CHP Account revenues”* sets measures that address the financial sustainability of the Account as regards existing RES units and the financial viability of the Account as regards new RES units (i.e. units commissioned after 1.1.2021), instilling future RES investors with confidence that the new investments needed for new RES capacity to reach NECP targets will be financially secure. The reform combined with reform *“Streamline the development of new RES plants to reach NECP targets through an extensive reform of the licensing procedure for new RES”* and with investments of this component such as *“Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection”* and *“Interventions for the electricity interconnection of islands and the upgrading of the electricity network”* create the appropriate environment for the necessary renewable capacity to be timely integrated in the system towards the country's energy and climate targets for 2030.

The reform *“Streamline the development of new RES plants to reach NECP targets through an extensive reform of the licensing procedure for new RES”* intends to tackle environmental, grid-connection and overall administrative related barriers and delays, as well as to diversify the renewable technology mix by allowing offshore wind projects to be developed and commissioned. The reform together with investments of this component such as *“Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection”* and *“Interventions for the electricity interconnection of islands and the upgrading of the electricity network”* as well as the reform of the RES-CHP Special account (*“Restructuring and enhancement of the RES CHP Account revenues”*) create the appropriate environment for the developments of new renewable capacity in order to reach the energy and climate target for 2030.

Component 1.2 Renovate

The reforms and investments of the *“Renovate”* component aim to increase energy efficiency, enhance economic growth, create job opportunities and promote social resilience.

The reform “Energy poverty Action Plan” is linked with the investment “Energy renovation on residential buildings” as it is aiming to provide a framework for the energy upgrade of the residential buildings of energy-vulnerable households and other social groups. The reform will support the investment with the preparation of an Action Plan for the Treatment of Energy Poverty. The Plan will reflect actions and other social policy measures, or energy pricing to enhance energy efficiency and specify the criteria to identify energy poor households.

The reform “Preparation of Urban Plans in implementation of the urban policy” aims to develop urban plans for the implementation of urban policy and the relevant planning systems and is linked with the investments “Energy and entrepreneurship”, “Energy renovation on residential buildings” and “Interventions in residential areas and in the building stock”. Although the 3 investments have different goals and outcomes, the new urban policy framework, coupled with tax, financial and town planning incentives, is expected to support the development of urban spaces that will make a positive impact in the urban environment and public areas and at the same time increase the pace of energy upgrading of both residential and enterprises buildings.

Component 1.3 Recharge and refuel

The reforms and investments of the “Recharge & Refuel” component aim to increase sustainable mobility, enhance economic growth, create job opportunities and promote social resilience. The reform “E-mobility - Framework for installation and operation of EV charging” is linked with the investment “Electromobility” aiming to provide legislative amendments towards the electrification of the Greek transportation sector. The investment “Electromobility” proposes the development of sustainable means of transportation (i.e., buses, taxis) and the establishment of accessible charge points at strategic urban and suburban locations within cities and at points of interest (i.e. airports, motorways, ports and in private parking areas). To this end, the reform will provide the framework for the implementation of these initiatives, aiming to address the challenges related to the heavy dependence of oil-based fuels in the transport sector.

Component 1.4 Sustainable use of resources, climate resilience and environmental protection

The reforms and investments of the “Sustainable use of resources, climate resilience and environmental protection” component aim to improve sustainable management, promote the protection of natural environment, implement circular economy and enhance civil protection. The reform “Establishment of new water and wastewater regulatory authority” is linked with the investments “Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment Plants” and “Drinking Water Supply and Saving Infrastructures”. The National Water Regulatory Authority (NWRA) that will be established with this reform will be responsible for the rational management of water resource. Through this authority decisions related to wastewater and water management will be reviewed, decisions for better operation of the infrastructure will be made and new initiatives for saving water will be promoted.

Component 2.1 Connect

The key objectives of Component 2.1 “Connect” are, on one hand, to establish the necessary reforms to ensure the transition to fast broadband connections and pave the road towards 5G technology and, on the other hand, to implement investments that focus on digital transition and

particularly on very-high-capacity digital infrastructure, with a view to increasing mobile and fixed broadband coverage and take-up.

The Component entails a solid and structured set of initiatives and actions, which are going to be implemented through a coherent set of interconnected reforms and investments, to promote the EU's 2025 Gigabit Society targets and ensure that, by 2025 the widest possible uninterrupted 5G coverage in all areas will be achieved. The reforms and investments of the "Connect" component will generate important spill-over effects across society and the economy, including job creation, new and better opportunities for the industry sector, higher efficiency and productivity both for citizens and businesses, while increasing Europe's digital strategic autonomy.

The reform *"Transition to 5G technology, facilitating the development of innovative remote services"* is linked with the investment *"5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks"*, as it is aiming to establish a well-designed basis for the development of 5th generation networks and the implementation of a coherent plan to substantially improve Greece's connectivity status and unlock a broad range of opportunities for Greece's economic recovery, growth and resilience. The reform will support the investment through the establishment of the necessary changes in the regulatory and legislative framework to encourage investments on 5G infrastructure and set up a planned and coordinated process through an analytical action plan and roadmap for the development of next generation networks and their incorporation in the national economy.

The reform *"Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand"* aims at increasing the availability of next generation broadband services throughout the country and is linked with the investments *"Fiber optic infrastructure in buildings"* and *"Submarine fibre cables"*, which are going to enhance the acceleration of the development of Fiber to Home (FTTH) networks and the transition to fast broadband connections, supporting emerging and future digital services and applications, and contributing directly to growth and new jobs creation, as part of the country's economic recovery and resilience. The reform shall support the investments by laying the foundation for the transition to 100/200 Mbps (Ultrafast) broadband connections through the design and implementation of an action plan/roadmap, which will focus on actions, prerequisite activities, time schedules, all broadband related changes, national targets, European obligations, risk and mitigation plans as well as any required changes on the existing legislative and regulatory framework.

Component 2.2 Modernise

The overall aim of Component 2.2 is to modernise the Greek Public Sector by improving its operational model, and achieving the provision of enhanced, qualitative services to citizens and businesses. The acceleration of efforts to improve the country's digital performance shall be enabled through a coherent set of reforms and investments aiming at (a) the digital transformation of Public Sector's organisations and the enhancement of their digital services, (b) business process improvements followed by the incorporation of contemporary information systems, (c) increased interoperability of systems and data, (d) wide-spread cybersecurity strategies and policies, as well as (e) extended use of advanced technologies such as cloud computing and big data.

The implementation of the envisaged measures is expected to have a long-lasting impact to the public administration, as well as the citizens and businesses, contributing to more citizen-centric,

inclusive, trusted, secure, autonomous, innovative, cross-border and interoperable digital public services in Greece.

Key objectives of the reform *“Towards Public Administration’s “customer”-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies”* are the development of a holistic framework and the application of digital solutions in the public administration for the provision of “customer” oriented services to Greek citizens that are, by default, digital, cross-border and interoperable; user-centric, inclusive and accessible; open and transparent; trustworthy and secure, based on the once-only-principle.

The proposed reform is introduced to ensure that a robust action plan and roadmap along with the proper legislative framework will be in place to ensure the timely and complete implementation of the linked investments, namely “CRM for the General Government”, “New system for Public Procurements”, “Digitisation of archives and related services”, “Central Document Management System”, “Further modernisation of Public Administration’s One-Stop Shops”, “Digitalisation of the Ministry of Foreign Affairs”, “Digital Transformation of the Greek National Tourism Organization”, and “Upgrade of Digital Skills in Military Service”. Additionally, to ensure the coherence and efficient implementation of the overall initiatives programme, a supporting reform structure shall be established to monitor the investments’ status and progress throughout the implementation period and proceed with follow-ups, remediation actions, recommendations and final delivery assessments.

The reform *“Interconnection and interoperability of registries, systems and services for data exchange between national public organisations”* aims to develop a comprehensive framework and roadmap for the interconnection and interoperability of registries and services for data exchange between public organisations, in line with the new European Interoperability Framework (EIF). The reform is linked with a series of investments, namely “Interoperability and web services development”, “Next-Generation Interoperability Centre (KED)”, “eRegistries” and “Tourism Registry e-MHTE”, aiming at a radical enhancement of interoperability between the Public Sector’s IT systems and data exchange for the provision of interoperable, personalised and user-friendly digital public services. The reform shall support the implementation of the proposed investments by introducing the proper organizational, procedural and legislative changes through a planned and coordinated process. New processes, supporting tools and capacity building measures (training to individual administrations, development of reporting methods to monitor compliance with the plan) will be deployed to support the transparent, evidence-informed and open interoperability expansion/development process.

The reform *“Data Governance strategy & policies for the Public Sector”* aims to the definition of a clear strategy for Data Governance in the Public Sector, the development and implementation of the related policies and the review and update of the existing legal framework for open data and the re-use of public sector information, the provisions of which extend the principles of open availability and re-usability of documents, information and data that are either in the possession of public bodies, or funded by public resources. The reform is linked with the investment “Data Classification Studies for Public Sector’s Information Systems” aiming to provide the overall framework towards the development of a comprehensive Data Governance strategy and the establishment of the related Data Governance policies for the Public Sector. The investment proposes the standardization of data classification studies for all central information systems and applications of Public Sector to establish a framework for classifying

public data based on their level of sensitivity, value and criticality as required by the National Data Governance and Information Security Framework. The reform will support the investment with the preparation of an Action Plan that is going to define the scope, objectives, risk and mitigation plans, features and requirements, procedures for the smooth implementation of the involved initiatives and measures. A cost-benefit analysis shall also be performed to indicate the most appropriate changes, policies and technologies that need to be developed and implemented.

The reform *“Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures”* concerns the development and implementation of a cybersecurity strategy and a set of cybersecurity policies, which will increase the reliability and security of public sector systems and data and improve citizens’ trust in their interaction with the public sector. Additionally, the reform involves the implementation of the National Cybersecurity Operations Center (SOC) as well as the provision of advanced Security Services in G-Cloud critical infrastructure, aiming to the systematic and continuous improvement of the security and the limitation of cybersecurity threats to the public sector’s central infrastructures and the information systems that operate through it. The reform is going to be implemented through a coherent and well-structured series of interventions and actions aiming to a uniform governance, risk management and security management framework for government agencies, providing guidance on detailed concepts and steps in transforming cybersecurity, and aligning them with the existing national cybersecurity strategy and processes. Additionally, the reform promotes the enhancement of security services in G-Cloud central infrastructure in order to ensure its constant monitoring, as well as the detection and prevention of security incidents, including cyber-attacks and therefore enabling a holistic view of Public Sector’s data and information systems security.

The reform *“Incorporation of new technologies and trends towards Public Administration’s advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs”* aims to set up a framework for the improvement of Public Administration’s services, policies, decision making processes through the incorporation of advanced technologies such as digital platforms, Cloud Computing infrastructure and services, data analytics, Artificial Intelligence, Distributed Ledger Technology - DLT, Smart Cities etc. The reform concerns the definition of a clear strategy and action plan for the embodiment of advanced technologies and trends into Greek Public administration and is linked with a series of investments, namely “Central BI – Data Analytics”, “Enhancement of Public Sector's Business Continuity”, “Supply of Central Cloud Computing Infrastructure and Services”, “Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET)”, “Expansion of Syzefksis II” and “Smart Cities”. The reform is going to support the proposed investments through a planned and coordinated process towards the establishment and implementation of new procedures, infrastructure designs, advanced digital technologies tools, as well as a proper risk management mechanism to identify, assess and prevent any impediment, risk and/or inconsistency that might hinder their implementation.

Component 2.3 Digitalisation of Businesses

The aim of Component 2.3 is to increase the take up of digital technologies by businesses, reducing the digital gap between Greek small and medium sized enterprises (SMEs) and those of the European average. The digitalisation of business activities envisage to change the business environment and kick-start a paradigm shift for the national economy towards the materialization of a Digital Single Market and nurturing the Data Economy.

The reform “*Establishment of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation*” aims to set up a plan for the implementation of the proper policies, programs and incentives from the government to enhance businesses digital transformation, strengthen the country’s industrial competitiveness and modernisation and ensure the sustainability and resilience of the SMEs sector. The reform is linked with the investment “Digital Transformation of SMEs” aiming to (a) create digital infrastructure through funding for the supply and installation of digital tools and services, and increase the digital awareness of business executives, (b) directly encourage investments in modern digital technologies, using tax incentives on tangible and intangible assets, and (c) upgrade the cash registers and POS ecosystem, in order to change the business environment, enhance transparency and promote healthy competition. To this end, the reform will provide the framework for the implementation of these initiatives, by defining a clear strategy and action plan for the establishment of a digital business ecosystem that fosters the digital transformation of SMEs. The plan shall assess and identify the proper policy making initiatives, including (a) new digital technologies, (b) the tools to support the digital transformation of businesses, (c) the digital skills gap of business executives and (d) the appropriate mix of tax incentives needed to change the business environment and increase investments in the digitization of business activities.

Component 3.1 Increasing job creation and participation in the labour market

The overall aim of the component is to enhance labour market participation and mitigate the effects of the pandemic on employment. The proposed Active Labour Market Policies are directly aligned and complementary to the Passive Labour Market Policies reform, as both enhance the entrance in the labour market, by removing barriers regarding labour market participation and activating the unemployed population through targeted upskilling programmes and subsidised work. Through the reform of the nation’s Passive Labour Market Policies, the proposed measure seeks to improve coverage and equitable distribution of unemployment benefits, strengthen the social safety net, promote labour market participation, including vulnerable groups, and improve the efficiency and effectiveness of the social protection system. To this end the restructuring and rebranding of OAED local KPAs will further support the overall goal to create a systematic relation of the employment services with the labour market. OAED digitalisation further invests in facilitating a more efficient job matching and efficient labour supply to meet employer demand.

The reform of the Labour Law acts as an umbrella reform that will promote higher employment rates, flexibility and work-life balance. When combined with the relevant investment for the digital transformation of the labour systems, the expected outcome is that there will be a significant effect in combating undeclared and under-declared work, while reducing administrative burden and red tape.

Component 3.2: Education, vocational education and training, and skills

The overall aim of this component is to effectively address current skills mismatch and create a direct link between qualifications and jobs. To this end both the reforms of OAED (namely “Labour force skilling, reskilling and upskilling through a reformed training model for the working population” and “Strengthening the apprenticeship system”) and the reform and investment of the Ministry of Education and Religious Affairs (namely “Upgrade Vocational Education and Training” and “Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools”) will further upgrade the Vocational

Education and Training (VET) in Greece, create opportunities to respond effectively to unemployment and address labour market imbalances, while contributing to making the VET system an appealing educational pathway. The aforementioned projects also invest in the digital transformation of the VET system and the provision of the required equipment and tools that will help meet the shifts in skill demand and supply that have been reflected in the inability of employers to fill their vacancies with people that have the right skills. Towards this goal the Horizontal Upskilling Programme will further support the undertaking policies to reduce skills mismatch. The reform “A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece’s Upskilling and Reskilling System” will act as a cornerstone in the effective delivery of the upskilling and reskilling programmes, through a mechanism that is results-driven and ROI oriented and an improved governance scheme. Good-quality and labour-market-relevant vocational education and training and a reformed lifelong learning system will be complemented by investing in Higher Education by mainly promoting its linkage to the labour market. Bridging the digital divide and making the leap across digital skill gaps requires significant modernisation of the country’s education and VET systems which is evident across the component. Digital skills and digital transformation of the methodologies, training material and educational approach are playing a pivotal role in maintaining a healthy balance between shifting skill requirements in jobs and workforce skills.

Component 3.3 Improve resilience, accessibility and sustainability of healthcare

The “Health” pillar is designed to increase crisis preparedness and crisis response capacity, in particular by improving the accessibility and capacity of health and care systems. The reforms and investments of the “Health” component aim to enhance efficiency of the national health system, achieve equal access to health services and ensure the system's financial sustainability.

The reform “Organisational Reforms in the Health System” aims to rationalise the reimbursement of hospital medical procedures and create a framework that will ensure the establishment of reliable, quality procedures and performance measurements related to patient care, health needs and care delivery. Basic requirement for this reform is to outline the overall architecture of the systems which will better support the interoperability with existing IT infrastructure. This reform is linked with the investment “Digital Transformation of Health” as one of its subprojects, aims to improve hospital digital readiness and their capabilities to meet the standards required for safe, effective and efficient healthcare.

One of the aims of the “Reform of the Primary Health Care System” is to upgrade the infrastructure and medical equipment of health centers. This reform is linked with the investment “NHS Hospital Renovation and Infrastructure Upgrade” as it aims to the complete intervention for the modernisation of the logistical infrastructure of hospitals throughout Greece with the renovation of buildings and the supply of new medical equipment.

Component 3.4 Increase access to effective and inclusive social policies

The overall aim of this component is to promote social coherence and equal opportunities for all. “Child protection reform” and “Disability reform” are interconnected as they are both addressing the needs of people with disability. The former one by establishing the early diagnosis of learning and developmental disorder for children aged from 3 months to 4 years old and an integrated approach for interventions for children with autism, while the latter fully promotes the deinstitutionalisation of children and adolescents (foster care, supported independent living

apartments). “Disability reform” also promotes social integration and labour market participation through (a) the establishment of personal assistance for people with disabilities and (b) employment programmes for people with autism disorder. These two projects can be seen complementary with the investment “Social Integration” that actively promotes labour market participation of vulnerable groups and the investment “Promote integration of the refugee population into the labour market” which has a special focus on the refugees.

Moreover the component can be seen that promotes the employment of young parents and especially of young mothers, as it creates more childcare services options through (a) the creation of childcare units within companies and (b) subsidising the starting/creation of new early childcare centres or of new places in existent childcare centres for babies from 2 months to 2,5 years old. These measures will jointly meet the country’s challenge to enhance the toddler’s transition to out-of-home day care and at the same time support the smooth transition of women to employment.

Both digital projects (namely “Digital transformation of the social support system” and “Digitalisation of the migration and asylum system”) will reinforce the overall digital transformation of services given to the most vulnerable and marginalised groups. They both aim to meet the emergent need of interoperable systems and decrease the administrative burden for various processes and procedures regarding social benefits, data collection, monitoring of beneficiaries and effective response to applications.

Component 4.1 Making taxes more growth friendly and improving tax administration and tax collection

Component 4.1 aims at achieving tax integrity in the Greek ecosystem by targeted interventions aiming to enhance it and cure its current inefficiencies.

More specifically, reforms can be grouped into two discrete but complementary categories, which focus on Tax Policy and Tax Administration. The first category of reforms aims at digitally transforming tax audits, promoting the acceleration of VAT refunds and creating an updated framework to combat smuggling, while the second narrows down on codifying and simplifying the existing tax legislative framework, incentivising and boosting electronic transactions and introducing super-deduction of expenses on green economy, energy and digitisation.

In order to ensure the efficient implementation of all the above reforms to drastically enhance the tax ecosystem of Greece, a major investment has been included within Component 4.1, that of the Digital Transformation of the Tax and Customs Administration. This investment consolidates 14 digital infrastructure sub-projects necessary to implement the reform package of this component and support holistically its objectives, enhancing the institutional capacity and readiness of the tax and customs’ authorities of the country.

Component 4.2 Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption

Component 4.2 aims at fighting corruption and pursuing transparency within the Greek ecosystem, modernising the country’s public administration and Public Financial Management (PFM) framework, while at the same time increasing the efficiency of public investments.

For the first of the above, a series of reforms will be pursued aimed at the combating of illicit trade and protecting intellectual property, enhancing the AML/CFT framework and other legislative amendments tightly linked to certain forms of corruption. These are accompanied by a major initiative of the National Transparency Authority, constituting further relevant reforms and investments in the ecosystem, including among others the development of a comprehensive forensics policy framework and training package and the upgrade of the National Integrity System.

Regarding the other two, interventions related to “Reforming the Public administration”, enhancing the country’s State-Aid network and the update of the institutional framework for State Owned Enterprises (SOEs) are complemented with the relevant investments regarding the GOV-ERP, and the digital transformation of the Hellenic Consignment Deposit and Loans Fund.

Component 4.3 Improve the efficiency of the justice system

Component 4.3 focuses on drastically enhancing the Justice system, by tackling current issues and shortcomings in a holistic way.

More specifically, the component includes a reform that aims to accelerate the administration of justice through targeted interventions at the legislative framework as well as the incentivisation of judicial employees. This is paired with relevant reforms that seek to increase the digital capacities of the Greek justice system (concerning the digitisation of documents and integration of relevant IT systems, as well as the simplification and standardisation of procedures) and also upskill/ reskill judiciary staff following international good practice through a fully Justice-related skills’ program.

The above reforms are complemented by a major investment seeking to upgrade justice infrastructure and is expected to act as an accelerator to fulfil them, achieving the modernisation of old structures and buildings, significantly supporting the work of justice officials.

Component 4.4 Strengthen the financial sector and capital markets

Component 4.4 aims through integrated interventions to strengthen the capacity of the financial system to support the development of the economy, through the financing of companies and individuals in new ventures.

The interventions included in the specific component are labeled as reforms, due to them aiming at enhancing the financial and capital markets’ ecosystem through the respective legislative and regulatory interventions (i.e. the implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance or the codification and modernization of the capital-market regulatory & legislative environment).

The above are highly linked to their dedicated investments (within each respective intervention), in the form of IT systems that will be introduced in order to support the better functioning of the financial system and capital markets. These investments will seek to ensure that the involved stakeholders are better equipped to support the system’s better functioning and growth as well as eradicating information asymmetries prevalent.

Component 4.5 Promote research and innovation

Component 4.5 aims through interventions to strengthen the connection between academia and the productive sector by promoting innovative start up companies.

The proposed reform of the component targets through the platform Elevate of Greece to increase the co - operation between Greek research and innovation ecosystem with its counterparts abroad. The platform will serve the start-ups by promoting them worldwide and but mostly the platform will be upgraded and expanded in order to network the innovation network of Greece at a broader scale, including Research Centers, Innovation Clusters, Competence Centers and highly innovative local companies.

The above reform is connected strongly with the investments since most of the investments fund new innovative ideas which come from the productivity sector, research centers and academia. These investments can be the opportunity for the establishment of innovative start ups with huge potentials which they can benefit from the reform in order to promote their work and their activity and to enforce their collaboration with counterparts abroad.

Component 4.6 Modernise and improve resilience of key economic sectors

Component 4.6 through targeted reforms focuses firstly, to modernise the investing environment in key economic sectors by simplifying the procedures and secondly, to boost trade for private investments. These two actions aim to attract strategic investment and to achieve resilience in the key economic sectors.

In the context of the National Plan for the Simplification of Procedures, the reform aims at the simplification and modernisation of the procedures of the Ministry of Infrastructure & Transport towards a substantial upgrade of the services provided and the rollout of advanced digital services to citizens. In addition, the reform Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport will provide a tool to monitor, manage and administer its portfolio of all technical works and assets. The overall initiative is going to be facilitated through investments on the systematic analysis, redesign and simplification of procedures, the implementation of contemporary information systems and applications and the incorporation of cutting-edge technologies leading to significant spill-over effects to the operational model of the public administration and its quality of services. Moreover, the system will provide accurate information in real time regarding deliverables, cost and schedule throughout all the stages and lifecycle of the performed works, including (a) increased productivity gains and cost-savings, (b) effectiveness and quality improvements of public sector operations, functions and services, (c) transparency, accountability and legitimacy, and (d) strengthening the citizens' trust in the services of the Ministry of Infrastructure and Transport and in general to the Public Administration.

Moreover, the reforms of this component seek to improve the framework for attracting private investments in Greek society, and to boost the export orientation of the economy. The above initiative will be facilitated through the investments of the component 4.6 in key economic sectors such as Tourism, Industry, Culture and Primary sector and it is expected not only to attract further investments in these sectors but mostly to strengthen their trade power.

Component 4.7 Improve competitiveness and promote private investments and exports

Component 4.7 seeks to reform the Greek business environment, paired with the provision of the relevant financial incentives for private investment.

In more detail, the reforms that constitute this component revolve around the simplification of the business environment and the upgrade of its quality and safety, while at the same time ensure that, through targeted interventions, a business-friendly ecosystem is created, significantly reducing bureaucracy and administrative costs.

The above are complemented with financial incentives for private investments (the loans from the RRF, utilised in ways that are compatible with fiscal sustainability and limit exposure to taxpayers) that will be used in order to promote investment with eligibility firmly grounded on economic foundations, including the economy's green and digital transition.

Part 2: Description of reforms and investments, Green

COMPONENT 1.1: Power up

1. Description of the component

Policy areas/domain: Energy market, renewable energy sources (RES), electricity interconnections (transmission and distribution), security of energy supply, climate change.

Summary: Transition to a low carbon and new energy model is a key high priority for Greece. The ambitious climate and energy plans include the reduction of GHG emissions, the increase of RES share in gross final energy consumption.

The aim of the component is to contribute to the climate and energy plans, through a batch of investments that increase the resilience of the electricity network, its capacity and its energy storage capabilities, thus, allowing for greater penetration of renewable energy sources (RES) in the energy mix. Strong emphasis is placed on electricity interconnections between the islands and the mainland, and in particular, the connection of the Cyclades Islands to the mainland's grid. These interventions aim to reduce energy costs, phase-out oil-fired power generation and increase the potential of the islands to support electricity generation from RES. In addition, the component introduces reforms that ensure financial stability and long-term sustainability of the RES-CHP Account and speed up the licensing procedure for new RES plants.

Moreover, the component will promote Greece's national target for the total phase-out of lignite by 2028 and the phase-out of oil, by introducing integrated support measures, including socio-economic and environmental rehabilitation measures, for the redevelopment of affected areas, thus, ensuring a Just Transition.

Objective: This component promotes the green transition, aiming to increase the share of RES in gross final energy consumption and reduce GHG emissions. It is consistent with the phase-out of lignite and petrol in power generation and contributes to the climate change mitigation and pollution prevention and control objectives of the "EU Taxonomy Regulation". Moreover, the proposed reforms and investments, contribute to the energy security of Greece and the broader region, by diversifying its energy supply sources and limiting the vulnerabilities of the country's interconnection infrastructures, and creating new jobs.

[Link to the European Flagship: 'Power Up'](#)

Reforms and investments

Reforms

- **Reform 1.** Restructuring and enhancement of the RES CHP Account revenues (ID:16865, COFOG 04.3)
- **Reform 2.** Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the implementation of monitoring mechanism, the participation of demand response and an extensive reform of the licensing procedure for new RES (ID:16860)

Investments

- **Investment 1.** Interventions for the electricity interconnection of islands and the upgrading of the electricity network (ID:16870, COFOG 04.3)
- **Investment 2.** Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection (ID:16899, COFOG 04.3)
- **Investment 3.** HEDNO network upgrades aiming at enhancing resilience and protecting the environment (ID:16901, COFOG 04.3)
- **Investment 4.** HEDNO overhead network upgrading in forest areas (ID:16900, COFOG 04.3)
- **Investment 5.** Revitalization actions of the most affected territories (Just transition territories) (ID:16871, COFOG 05.4)
- **Investment 6.** Support of the installation of storage systems to enhance RES penetration (ID:16926, COFOG 04.3)

Estimated sum of grants and loans: EUR 2,348 million, of which EUR 1,200 million (51%) are covered by RFF

2. Main challenges and objectives

a. Main challenges

The 2019 and 2020 CSRs identify numerous challenges related to the reduction of GHGs and increase in RES penetration¹². The limitations of electricity infrastructure and the lack of grid interconnections with islands, restrict the further uptake of renewable energy and the exploitation of the high local RES potential both onshore and offshore. Finally, an upgrade of the investment in energy infrastructure could lead to reduced cost of energy for businesses and households and improve competitive conditions for the national economy. In order to fully exploit the potential of new infrastructure, energy markets need to reform. As part of the post-programme commitments agreed at the Eurogroup of 22 June 2018, the completion of which is a CSR, the Target Model is online as of November 2020¹³. The CSRs also call for the front-loading of planned investments in renewable energy sources and energy efficiency in order to support the post-COVID-19 economic recovery and investments that ensure the just transition of the regions most affected by Greece's ambitious decarbonisation plan¹⁴.

The main challenges addressed through the reforms and investments presented in this component are the following:

Achieve NECP targets (by 2030) and pave the path to climate neutrality by 2050. Through the NECP, Greece has committed to specific climate targets by 2030, which include the reduction of GHG emissions by more than 42% compared to emissions in 1990 and more than 56% compared to emissions in 2005, the objective for a minimum share of 35% in gross final energy consumption from renewable energy sources (RES), as well as the improvement of energy efficiency by 38% (compared to the 2007 predictions). The relevant targets are aligned with the EU Green Deal strategy and contribute towards the overall strategy for climate neutrality by 2050.

Systemic and extraordinary challenges in reforming the energy market. The reorganisation of the domestic electricity market and its harmonisation with the corresponding European markets is one of the requirements for achieving the NECP's climate and energy objectives while enhancing the competitiveness of the Greek economy. In the context of Enhanced Surveillance Greece is urged to reform the energy market¹⁵ and address systemic and extraordinary challenges, including the consequences of the Covid-19 pandemic and the respective decrease in energy prices and consumption.

The Renewable Energy Sources (RES) and Combined Heat Power Stations (CHP) Account's sustainability has been seriously affected by the covid 19 pandemic. This is a key concern, which is also highlighted in the September 2020 Enhanced Surveillance Report¹⁶. In the framework of reforming the energy market, the Account constitutes a main source for remuneration of the operating RES producers and is therefore a significant vehicle for achieving the national energy transition goals regarding RES penetration.

The energy network infrastructure is not fully responding to the country's needs and increases risks related to energy supply and security. Greece is a country with geographical particularities which cause challenges to the energy distribution network. These challenges relate to infrastructure limitations that increase energy costs for businesses and households and slow down the uptake of renewable energy. Greece is required to address issues related to energy network infrastructure, including the electricity

¹² Recital 17/20, CSRs 2019

¹³ Recital 24, CSRs 2020

¹⁴ CSR 1, 2019; CSR 4, 2020

¹⁵ Enhanced Surveillance Report, Greece September 2020 (p.77)

¹⁶ Enhanced Surveillance Report on Greece, September 2020 (p.77)

connectivity of islands and the enhancement and upgrade of the grid operation at system and distribution level¹⁷.

The need for rapid lignite phase-out creates economic and social challenges for transition areas and increases energy poverty. For Greece to reach its national and European energy and climate policy targets for 2030 a total lignite phase-out is to be materialised until 2028. However, the decommissioning of the lignite power plants, and the closure of the lignite mines generate significant challenges for the affected regions, including GDP decrease, increase of unemployment and energy poverty. This set of challenges is particularly acknowledged in the framework of the 2020 CSRs¹⁸.

b. Objectives

The component is in line with the country specific recommendations (CSRs) for the country for years 2019 and 2020, which recommend focusing investment and investment-related policies on green transition focusing on the clean and efficient production and use of energy and the promotion of RES penetration. This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020.

The proposed actions are aligned with the European Flagship 'Power Up' (COM(2020) 575).

1. Green transition: The proposed reforms and investments are fully aligned with the EU Green Deal strategy towards climate neutrality and the interim 2030 strategy. For this strategy to be implemented, capital flows must incorporate environmental, social and governance (ESG) criteria and promote transparency and sustainable growth. In this context, the financing of this component's actions serves two environmental objectives of the EU Taxonomy Regulation¹⁹ by promoting climate change mitigation as well as pollution prevention and control through the increase in RES penetration. The component promotes the financial stability of the RES CHP Account and the upgrade of the energy network, which are prerequisites in order to ensure an attractive RES investment environment and establish the required infrastructure that will enable the RES penetration and as a result reduce GHG emissions and contribute to the climate targets. Moreover, the investments contribute to the achievement of the NRRP energy targets, which will be achieved through the enhancement of the electricity interconnection system, the development of energy storage facilities and the phase out of oil-fired power plants by interconnecting the islands to the mainland electricity system. Finally, the reforms and investments contribute to the decarbonisation targets and ensure a smooth energy transition, following the shutdown of lignite units in Greece by 2028.

2. Economic & social resilience: The implementation of the component aims to increase the security of energy supply of Greece. It will enable Greece to reduce its dependence on external sources, diversify its supply and strengthen the security of supply both in Greece and in the broader region of SE Europe. It will contribute to the smooth, uninterrupted and reliable coverage of both domestic and regional energy needs, as well as the access of all consumers (people, businesses and public sector bodies) to affordable

¹⁷ Recital 17, CSRs 2019

¹⁸ Recital 24, CSRs 2020, *"Related investments could include ... measures to ensure the just transition of the regions most affected by Greece's ambitious plan to move away from lignite-based power generation"*

¹⁹ According to the environmental objectives as stated in article 9 of Regulation (EU) 2020/852 (hereafter "EU Taxonomy")

and secure energy. The component also serves SDG 7 on Ensuring access to affordable, reliable, sustainable and modern energy for all, and more specifically, targets 7.1 and 7.2.

3. Economic, social and territorial cohesion & convergence, including potential growth and jobs: Front loading investment activity on renewable energy projects will contribute to post-COVID-19 economic recovery, the core objective of the RRF. The component will increase the competitiveness for local businesses by lowering energy costs and increasing energy efficiency (the ratio of output of performance, service, goods or energy, to input of energy). All proposed actions respond to challenges related to the recovery and long-term sustainable growth of the Greek economy. Promoting investment in the field of energy results in economic stimulus, technological spillovers and a considerable number of direct and indirect employment opportunities. The implementation of this component will reduce the energy cost, thereby increasing the competitiveness of the Greek economy and increase employment opportunities. The positive social impact of this component is also significant. It can drive the revitalisation of socio-economically disadvantaged areas and become a multiplier of local development, by promoting further investments.

c. National strategic context

In the national strategic context, the Pissarides' Committee report which serves as the growth plan for the Greek Economy has identified that the growth of the energy sector and its contribution to the national economy development for the next years is determined by the investments that will take place in the existing energy system and the improvement of competition in the domestic energy market.²⁰

The component also fits within an overall national strategic context in the policy field of energy security and of the internal energy market, which constitute main pillars for achieving the goals of NECP strategies also in line with the 2030 goals of the EU. It serves to enable the electricity network to support the increase of RES penetration and the seamless, safe and uninterrupted transmission of electricity from production to consumption sites. All proposed reforms and investments either implicitly or explicitly aim to facilitate investments in the promotion of RES.

The component is also aligned with the targets and the priorities of the Just Transition Development Plan of lignite areas, supporting the transition of the old lignite areas with targeted investments that will prepare them to receive the new economic activities.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Restructuring and enhancement of the RES CHP Account revenues (ID:16865)

Reform 2. Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the implementation of monitoring mechanism, the participation of demand response and an extensive reform of the licensing procedure for new RES (ID:16860)

²⁰ Growth Plan for the Greek Economy, (Interim report, July 2020) – Chapter 4.11.2

b. Investments

Investment 1. Interventions for the electricity interconnection of islands and the upgrading of the electricity network (ID:16870)

Investment 2. Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection (ID:16899)

Investment 3. HEDNO network upgrades aiming at enhancing resilience and protecting the environment (ID:16901)

Investment 4. HEDNO overhead network upgrading in forest areas (ID:16900)

Investment 5. Revitalization actions of the most affected territories (Just transition territories) (ID: 16871)

Investment 6. Support of the installation of storage systems to enhance RES penetration (ID:16926)

4. Open strategic autonomy and security issues

Meeting the climate targets for 2030 and the climate neutrality 2050 would allow the EU to support a green economy and reduce the share of conventional energy sources which represent a key source of external dependency in the energy sector, thus enhancing its level of autonomy.

To this extent Power up investments and reforms contributing to EU targets for 2030 and to the National Energy and Climate plan, aim to the increase of renewables' share in final energy and electricity consumption, the promotion of energy storage and the reduction of oil-fired electricity generation in the Greek islands as well as to the strengthening the critical energy infrastructures such as the electricity distribution network and electricity transmission system.

5. Cross border and multi country projects

No cross-border or multi-country projects are included in the Power up component.

6. Green dimensions of the component

The European Green Deal refers to the objective that all EU countries must be 100% climate neutral by 2050 and reach a 50% target by 2030. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data and to achieve 35% of RES share in gross final energy consumption and at least 60% in gross final electricity consumption.

The component promotes the financial stability of the RES CHP Account and the upgrade of the electricity networks, which are prerequisites in order to ensure an attractive RES investment environment and establish the required infrastructure that will enable the RES penetration, such as the enhancement of the electricity grid and the establishment of energy storage facilities and as a result to reduce GHG emissions and contribute to the climate targets.

In addition, the component introduces the simplification of RES licensing procedures as well as a regulatory framework for offshore RES/wind facilities to facilitate new investments in the sector increasing the RES-e share and achieving the NECP targets. It also aims strengthen Greece's new electricity markets by establishing clear and transparent Market Monitoring and Surveillance Mechanism of the four (4) electricity markets, namely the Derivatives Market, the Day-Ahead Market, the Intra-Day Market and the Balancing Market and to optimize the performance of the markets by introducing the remaining technical details related to participation of DSR in the balancing market.

Moreover, the investments of the component contribute to the achievement of the NRRP energy targets, intending to the phase-out of oil-fired power plants by interconnecting the islands to the mainland electricity system, resulting in the reduction of CO₂ emissions and of the energy costs as well as the enhancement of the country's security of supply and further RES integration. Furthermore, the proposed investments aim at the development of energy storage facilities that can enhance electricity system flexibility providing back-up to intermittent renewable energy generation. Finally, the reforms and investments contribute to the decarbonisation targets and ensure a smooth energy transition, following the shutdown of lignite units in Greece by 2028.

7. Digital dimensions of the component

Non applicable.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU. The Regulation COM (2020) 408 sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

Title of reform or investment	Climate (%)	Digital (%)
Interventions for the electricity interconnection of islands and the upgrading of the electricity network (ID:16870)	100%	0%
Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection (ID:16899)	100%	0%
HEDNO network upgrades aiming at enhancing resilience and protecting the environment (ID:16901)	100%	0%
HEDNO overhead network upgrading in forest areas (ID:16900)	100%	0%
Revitalization actions of the most affected territories (Just transition territories) - Rehabilitation of industrial sites and contaminated land (ID: 16871)	0%	0%
Revitalization actions of the most affected territories (Just transition territories)- Nature and biodiversity protection, natural heritage and resources, green and blue infrastructure (ID: 16871)	40%	0%
Support of the installation of storage systems to enhance RES penetration (ID:16926)	100%	0%
Restructuring and enhancement of the RES CHP Account revenues (ID:16865)	100%	0%
Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the	100%	0%

Part 2: Description of reforms and investments

implementation of monitoring mechanism, the participation of demand response and an extensive reform of the licensing procedure for new RES (ID:16860)		
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9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the Power up component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost
- It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost

parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The projects that belong to Component 1.1 exhibit in general similarities from a costing perspective. Especially for projects that are related to electricity transmission and distribution networks a top down approach was followed combined with bottom up elements where detailed budgets were available:

- Detailed cost breakdown per project and subproject
- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Analysis of previously contracted projects in Greece
- Development and comparison of unit costs with similar Greek and EU projects
- Request for clarification to project promoters where applicable for the justification of costs

For some projects that are more specific in nature such as those related to land reclamation and storage, top down approaches have been used to validate project costs based on international benchmarks.

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 1.2: Renovate

1. Description of the component

Policy area/domain: Energy efficiency, building renovation, construction/housing, climate policy, social policy, resource efficiency, circular economy, renewal urban areas.

Summary: The renovate component introduces reforms and investments in urban planning and energy management of buildings aiming to improve energy efficiency, reduce carbon footprint and meet the EU climate neutrality goal by 2050. The reforms and investments of the component will accelerate the reduction of emissions through the energy efficiency of residential, commercial, industrial and public buildings and will create of a greener built environment through improvements in urban and spatial planning.

Objective: The main objective of the component is to promote green transition in the built environment. The renovation wave aligned with the National Energy and Climate Plan (NECP) will reduce energy consumption and greenhouse gas (GHG) emissions. The optimisation of urban planning will upgrade the sustainability of urban environment and will improve the quality of life of the population. The component contributes to the recovery, prosperity and resilience of the Greek economy through investments in the construction sector, industry and urban environment, thus alleviating youth unemployment by creating opportunities for highly qualified human resources.

[Link to the European Flagship: 'Renovate'](#)

Reforms and/or Investments:

Reforms:

1. Reform 1. Preparation of Urban Plans in implementation of the urban policy reform (ID: 16879, COFOG 06.2)
2. Reform 2. Energy poverty Action Plan (ID: 16920)
3. Reform 3. Establishment of new maritime spatial planning (ID: 16891)
4. Reform 4. Establishment of new special spatial planning for RES, industry, tourism and aquaculture (ID: 16894)

Investments:

5. Investment 1. Energy renovation on residential buildings (ID: 16872, COFOG 04.3)
6. Investment 2. Energy and entrepreneurship (ID: 16874, COFOG 04.3)
7. Investment 3. Energy upgrade of public sector buildings and energy infrastructure of public entities (ID: 16876, COFOG 04.3)
8. Investment 4. Interventions in residential areas and in the building stock (ID: 16873, COFOG 06.6)
9. Investment 5. Olympic Athletic Centre of Athens (ID: 16932, COFOG 08.1)
10. Investment 6 Infrastructure development and buildings' restoration in former royal estate in Tatoi (ID: 16875, COFOG 08.6)

Estimated sum of grants and loans: EUR 5,225 million, of which EUR 2,711 million (52%) are covered by RFF

2. Main challenges and objectives

a. Main challenges

Energy efficiency and urban renewal are among the main investment policies that the 2019 Country Specific Recommendations (CSRs) invite Greece to focus on²¹. The upgrade of urban areas and of the upgrade of the energy efficiency of buildings are identified within 2019 and 2020 CSRs²² as key policy areas in order to achieve the green transition and social resilience goals. The need to renovate the existing building stock is also characterized as indisputable by the NCEP and the Development Plan for the Greek Economy²³ as its current state presents energy and cost inefficiencies and increases the risk for energy poverty²⁴. The main challenges that this component addresses are presented below:

Achieve NECP 2030 targets and pave the path to climate neutrality by 2050

- Underperforming building stock & existing inefficiencies

The NECP has set ambitious targets for 2030, including GHG emissions reduction by 56% compared to 2005, that even exceed the European Target²⁵ as set by the European Green Deal for Climate Neutrality by 2050. In addition, the NCEP aims to achieve an at least 38% reduction in final energy consumption (based on 2007) and a 35% RES contribution in the energy mix. However, as noted in the 2020 Country Report for Greece²⁶, the Greek building stock is a challenge by itself. The buildings sector in Greece; and mostly the residential sector, accounts for 41% of total final energy consumption. Despite previous years' efforts, the specific energy consumption of the building stock remains high. The age of building stock, with many residential and commercial buildings built before 1980 lacking thermal protection and appropriate thermal bridging, is a substantial source of inefficiency. The building sector will be a key area for energy savings.

Furthermore, the challenges related to energy inefficiencies of buildings include the increased risk for energy poverty, thus threatening social resilience. Low energy efficiency of residences results in high energy costs, affecting low-income households disproportionately and exacerbating existing inequalities and creating additional challenges. In this respect, building renovation schemes will be essential to support the economic recovery, through job creation in the construction sector, savings on energy bills, healthier living conditions and reduced energy poverty²⁷. It is indicative that in 2018, 22.7% of the population (far above the EU average of 7.4%) were unable to keep their home adequately warm and 35.6% had arrears on utility bills²⁸.

- Lack of investment, high costs, other market and non-market barriers

²¹ CSR 2, 2019

²² Recitals 16 & 20, CSRs 2019; Recital 24, CSRs 2020

²³ Development Plan for the Greek Economy, (Interim report, July 2020) – Chapter 2.1.

²⁴ 2021 ASGS; COM (2020) 662 final of 14.10.2020

²⁵ NCEP p. 42

²⁶ 2020 Country Report p.69

²⁷ 2021 Annual Sustainable Growth Strategy (pp.5-6)

²⁸ 2020 Country Report p.70

The benefits of improving efficiency standards in the buildings sector and in residential appliances are important but also create challenges with respect to the significant level of investments needed²⁹[9]. Suffering from a decade of economic crisis before the pandemic, with a significant fall in both real estate values and investments, the built assets and structured environment fell behind. The large investment cost needed to significantly improve the energy and resource performance of buildings constitutes the actions preventative for the citizens to proceed. In this framework, market as well as non-market barriers are presented. Incentivising investments in energy and resource efficiency in buildings is currently obstructed by relatively high upfront costs compared to the gradual energy cost savings in the longer term. Institutional and administrative barriers to provide permits and certification for realizing energy efficiency measures are found to be a significant challenge and cost in rolling out energy and resource efficiency investments. Loss of investing interest and inactivity has led to lack of consumer information, insufficient familiarity with technical issues, and low consumer's ability to perceive and benefit from household energy upgrades. Uncertainty about developments in energy prices and technologies also presents a challenge in attracting additional investment in the field of energy upgrade.

Unsustainable urban planning creates challenges to both green transition and social resilience

The current ineffective urban renewal framework diminishes the chances for sound bioclimatic restructuring, energy consumption management and investments, making any plan for sustainable growth fade away. Until today, in 80% of the country there are no legally protected land uses; this lack decimates the implementation of useful urban tools for the acceleration of public or private investments and prevents urban and rural areas from being efficient and resilient. The lack of legally protected land uses leads to a plethora of challenges: it renders the allocation of investments precarious since investors cannot be certain about what is allowed and what is restricted in the area they are interested in; it prolongs the time needed for an investment plan / scheme to be approved by the public services which are involved in the various procedures; approved investments are delayed or canceled very often due to legal appeals based to the existing lack of institutionalized land uses; existing enterprises / facilities face difficulties in expanding or transforming their function again because of the uncertain legal status of the land uses.

Moreover, the lack of sustainable urban renewal schemes creates challenges towards achieving social resilience. As stated in the 2020 Country Report³⁰, Greece falls considerably below the EU average in public expenditure for social inclusion in the context of urban planning and housing. In this respect inefficient urban planning will not allow for social interventions.

Impact of the crisis and COVID-19 on employment

Mitigating the impact of the crisis on employment poses significant challenges for Greece and constitutes a significant policy area included in the 2020 and 2019 CS³¹Rs. Investing in the regeneration of urban areas required to counter the loss and deteriorated quality of the country's physical and human capital during the economic crisis³². The employment rate Europe 2020 target set at 70% of population aged 20-64³³, is

²⁹ 2020 Country Report p.69-70

³⁰ 2020 Country Report (p.77)

³¹ CSR 2, 2019

³² Recital 20, CSR 2019

³³ 2020 Country Report, p. 78

difficult to reach without investing on economic activities like the construction sector, severely hurt by the previous as well as the current COVID-19 crisis.

b. Objectives

The component is in line with the country specific recommendations (CSRs) for the country for years 2019 and 2020, which suggest focusing on investment and policies related to energy efficiency and the regeneration of deprived urban areas through the bioclimatic design principles.

(i) Reform 1. Preparation of Urban Plans in implementation of the urban policy reform aims at addressing recommendations 2:2019 and 3:2020 by promoting the renewal of urban areas, considering regional disparities and the need to ensure social inclusion.

(ii) Reform 2: Establishment of new maritime spatial planning aims at addressing recommendations 2:2019 and 3:2020 by introducing a new spatial plan for the maritime environment.

(iii) Reform 3. Establishment of new special spatial planning for RES, industry, tourism and aquaculture aims at addressing recommendations 2:2019 and 3:2020 by establishing new spatial plans for multiple activities and sectors.

(iv) Reform 4. Energy Poverty Action Plan aims at addressing recommendations 2:2019 and 3:2020 by promoting regulations related to building energy efficiency.

(v) Investment 1. Energy Renovation on residential buildings aims at addressing recommendations 2:2019 and 3:2020 by focusing investment on the green and digital transition and on energy efficiency of buildings, considering regional disparities and the need to ensure social inclusion.

(vi) Investment 2. Energy and entrepreneurship aims at addressing recommendations 2:2019 and 3:2020 by focusing investment on the green and digital transition and on energy efficiency of buildings, considering regional disparities and the need to ensure social inclusion.

(vii) Investment 3. Energy upgrade of public sector buildings and energy infrastructure of public entities aims at addressing recommendations 2:2019 and 3:2020 by focusing on the regeneration of urban areas and promoting energy efficiency while considering regional disparities and the need to ensure social inclusion

(viii) Investment 4. Interventions in residential areas and in the building stock aims at addressing recommendations 2:2019 and 3:2020 by focusing on the regeneration of urban areas and promoting energy efficiency while considering regional disparities and the need to ensure social inclusion.

(ix) Investment 5. Olympic Athletic Center of Athens aims at addressing recommendations 2:2019 and 3:2020 by focusing on the regeneration of urban areas while considering the need to ensure social inclusion.

(x) Investment 6. Infrastructure development and buildings' restoration in former royal estate in Tatoi aims at addressing recommendations 2:2019 and 3:2020 by focusing on the regeneration of urban areas and promoting energy efficiency while ensuring social inclusion.

All the proposed reforms and investments of “Renovate” contribute to the upgrade of existing building stock and the regeneration of the urban areas, maximizing the achievement of environmental and social priorities, thereby considering the CSR 2020³⁴. Also, the component serves climate mitigation objectives linked to the reduction of CO₂ emissions and the climate “neutrality” of urban areas but also the climate adaptation objectives related to the resilience of the cities and their building stock towards climate change. In this framework, this component is in line with the commitment under the Paris Agreement on climate change as well as in accordance with the 2030 Agenda for Sustainable Development. Specifically, this component serves directly or indirectly three Sustainable Development Goals, namely SDGs 7, 11 and 13³⁵, in the context of achieving the green transition as well as social resilience.

The component also supports the European Flagship ‘Renovate’ (COM (2020) 575) by improving the energy and resource efficiency of public and private buildings and contributing to the doubling of the renovation rate and the fostering of deep renovations by 2025. As acknowledged by the 2021 Annual Sustainable Growth Strategy³⁶, improving the energy and resource efficiency of public and private buildings will substantially contribute to achieving the EU’s climate objectives as well as create local jobs throughout the Member States. The “Renovation Wave Strategy” of the EC launched in 2020³⁷ in the framework of the European Green Deal is specifically in line with the actions included in this component.

The proposed investments will contribute to the acceleration of economic and sustainable growth in the local and national level, as their implementation will contribute to the development of productive activities on the sectors of the building construction and urban bioclimatic restructuring, RES, development of “green” products (e.g. insulation materials), materials through ICT technology, circular economy etc.

Investing in energy efficiency of buildings would also help alleviate energy poverty in Greece and significantly unlock economic and social benefits on top of environmental ones³⁸. By renovating existing houses and smaller commercial property the expenditure for energy and water bills will decrease considerably, thus increasing the disposable income of the middle and lower economic strata. Vulnerable social groups will be given the opportunity to live in houses that are protective against the current climate and ready to withstand the forthcoming climatic challenges. Better living conditions (thermal comfort, ventilation, removal of harmful substances (e.g., asbestos, old lead pipes, technical systems etc), are expected to improve health and wellbeing and mitigate the effects that poverty has on children’s prospects in life. Also, developing new uses and functions for vacant and underused urban areas can increase the occupancy and create accessible spaces for entrepreneurs, social initiatives and community groups. The renovation wave and urban regeneration actions provide the opportunity to improve quality of life and livability of housing areas and urban spaces in an all-encompassing approach, including accessibility, mobility, spaces for social services and economic activity (e.g., co-working spaces for remote tele-working, shops, start-up incubators).

The component responds to CSR of 2020 on Mitigating the economic and social impact of the crisis by addressing challenges related to the recovery, prosperity and resilience of the Greek economy. In this

³⁴ Recital 24, CSR 2020,

³⁵ The United Nations Sustainable Development Goals (SDGs) served in this component are: SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all, SDG11: Make cities and human settlements inclusive, safe, resilient and sustainable, SDG13: Take urgent action to combat climate change and its impacts.

³⁶ 2021 Annual Sustainable Growth Strategy, p.9.

³⁷ COM (2020) 662 final of 14.10.2020

³⁸ 2020 Country Report p.70

context, the component's investments are focusing on preparing cities' economies to bounce back and face future challenges, by protecting and promoting the country's urban heritage and environment and having positive effects to the tourism economy, as well as by stimulating the economic activity both in the construction sector and in the production of construction materials.

In addition, the demand for new green technologies will mobilize economic activity in new green technological sectors of products and services and it is expected to create new jobs, some for highly skilled human resources, thus helping to tackle the intense Greek scientist migration and skyrocketing youth unemployment.

c. National strategic context

The strategic objectives and priorities of the Renovate component are aligned with the objectives, priorities, and policies of National and European Development Plans, contributing to the achievement of broader economic and social objectives.

Greece through the National Energy and Climate Plan (NECP), has adopted ambitious energy and climate targets for 2030, which are directly linked to the European Green Agreement and the strategic transition to climate neutrality in 2050, and to the United Nations Sustainable Development Goals. The objectives and the priorities proposed by the Recovery and Resilience Plan and especially Renovate component are aligned with the objectives and policies of the NECP.

In the national strategic context, the Development Plan of the Greek Economy³⁹ clearly states that the transformation of the energy sector in the country will require a significant level of investment within the next years, including the promotion of energy efficiency as one of the related national priority policies. The building sector must make a significant contribution to achieve climate neutrality by 2050. The adjustment to global climate change effects, presents significant challenges for the buildings sector along the whole life cycle, from the manufacturing of construction products, design, construction, use and end of life.

Moreover, the NECP has set specific ambitious goals for 2030 in relation to the energy efficiency improvement and the upgrade of the building stock. The renovation wave aimed at enhancing energy and resource efficiency takes place in the context of an existing national strategy contributing in that way to the achievement of the relevant objective of the NECP, addressing energy poverty, as well as attracting investments and creating new jobs in related professions and sectors. In accordance with the Long-term Renovation Strategy and the NECP, and in line with the Energy Performance of Buildings Directive (Directive 2010/31/EU), national building stocks are to be decarbonized by 2050.

With the upgrade of equipment and materials in residential, commercial and industrial buildings energy consumption can be reduced significantly in the buildings sector and to increase use of renewable energy for electricity use. Further resource savings could be achieved across various sectors by reducing indirect emissions arising from the production of construction materials, building components and plant technology. In line to the national strategic context, the component will prevent the generation of construction waste and increase of the recycled content of construction materials; thus, promoting the sustainable use of resources in the building sector. Additional building and infrastructure functions will

³⁹ Development Plan of the Greek Economy, Interim Report (2000), pp115-125.

lead to carbon emissions reduction by for example provisions for low-carbon transport (e.g., electric vehicle charging points, parking spaces for bikes) and by promoting passive building designs that reduce the need for active cooling or warming.

In the national strategic context, the component is also in line with the reform of the urban policy promoted by the modernization of the spatial and urban planning legislation. Aim of this reform is to simplify the implementation procedure of urban plans, upgrade their content in order to include the dimension of adaptation to climate change and to improve the energy behavior of urban public space and building environment and minimize delays in the implementation process of various projects (infrastructures & investment). This reform aims to transform the spatial / urban planning from an investment barrier factor to an enabler of productive investments and sustainable growth.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

Reforms:

- Reform 1. Preparation of Urban Plans in implementation of the urban policy reform (ID:16879)
- Reform 2. Energy poverty Action Plan (ID:16920)
- Reform 3. Establishment of new maritime spatial planning (ID:16891)
- Reform 4. Establishment of new special spatial planning for RES, industry, tourism and aquaculture (ID:16894)

Investments:

- Investment 1. Energy renovation on residential buildings (ID:16872)
- Investment 2. Energy and entrepreneurship (ID:16874)
- Investment 3. Energy upgrade of public sector buildings and energy infrastructure of public entities (ID:16876)
- Investment 4. Interventions in residential areas and in the building stock (ID:16873)
- Investment 5. Olympic Athletic Centre of Athens (ID:16932)
- Investment 6. Infrastructure development and buildings' restoration in former royal estate in Tatoi (ID:16875)

4. Open strategic autonomy and security issues

The four dimensions of environmental sustainability, productivity, fairness and macroeconomic stability identified in the 2020 Annual Sustainable Growth Strategy are the guiding principles underpinning the “Renovate” component. The component is aligned with the EU’s aim of achieving competitive sustainability and cohesion through a new growth strategy, the European Green Deal and it aims to help repair the damage from the COVID-19 crisis and prepare a better future for the next generations.

The component focuses strongly on investments and reforms supporting the green transition, including a minimum of 37% of expenditure related to climate. The proposed investments will improve the energy and resource efficiency of public and private buildings and will substantially contribute to achieving the EU’s climate objectives. The investments are accompanied by the necessary regulatory reforms to facilitate changes and enforce their applicability.

Building renovation schemes are essential to support the economic recovery in a country whose employment rates have been affected not only by the recent pandemic but also from the long recession prior to COVID -19. New job opportunities across the country will be created in the construction and energy sectors for both highly qualified human resources. Savings on energy bills will be achieved and overall living conditions will be improved leading to a healthier population both physically and mentally.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Buildings are responsible for approximately 40% of EU energy consumption and 36% of the greenhouse gas emissions and are therefore the single largest energy consumer in Europe. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

The building sector is one of the main contributors to the country's greenhouse gas emissions and within the NECP the country has set a target to renovate 600.000 buildings by 2030. The reforms and the investments of this component aim to accelerate the reduction of emissions through the energy efficiency of residential, commercial, industrial and public buildings. An annual reduction of 550 kt CO₂e and 90 kt CO₂e is targeted from household and enterprise renovations respectively; the greenhouse gas emissions will be further reduced from the 210 public building renovations and 500.000 street lighting replacements. Apart from the environmental savings, the building renovation schemes will contribute to the economic recovery, through job creation in the construction sector, savings on energy bills, healthier living conditions and reduced energy poverty. Addressing the phenomenon of energy poverty is imperative due to its gradual intensification in recent years that is attributed to the economic recession. Indicatively, it is reported that about 23% of the total population appears unable to adequately heat their homes, while in the case of the economically vulnerable population the corresponding percentage amounts to 41% in 2017. An environmental goal for all citizens, vulnerable and not, is to reduce air pollution, especially in urban centers. The target is a reduction of at least 50% of the relevant indicators of energy poverty by 2025; and 75% by 2030, setting as a baseline 2016.

There are also investments and reforms in this component that target the establishment of spatial and urban planning and the creation of a greener built environment. These measures aim at adapting urban environments to climate change and upgrading existing premises using environmental materials that promote circularity as described in the Green Deal Action Plan for circular economy and provide open areas to the public improving access to nature within the built environment and consequently improving their wellbeing.

In addition, the component's proposed measures contribute to the green transition, taking into account the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reform and investments will contribute to:

- Climate change mitigation by promoting energy transition and capital flows towards infrastructure with decreased energy requirements and improved carbon footprint.
- Climate change adaptation as the deep renovation of housing and the non-residential stock with a long-term perspective, takes disaster risks and changing climatic conditions into consideration (e.g., increasing likelihood of more frequent and more severe extreme weather events) and their overall resilience.
- Pollution prevention and control linked to the energy consumption of the building stock. Substituting fossil fuel-based heating installations that contribute to excessive ambient air pollution by cleaner alternatives fueled with renewable energy and phasing out fossil fuels in buildings altogether is also part of this component.
- Sustainable use and protection for water and marine resources, as all the actions will be implemented by respecting resources and improving the sustainability of all operations in the built environment, including renovations.

- Circular economy, including waste prevention and recycling; since more construction materials will be needed to implement this component, circularity principles are incorporated in the design phases of renovation and construction, and reuse as well as recycling platforms for construction materials and demolition waste are foreseen. Prevention of construction waste is supported and given priority, as indicated by the waste hierarchy.
- Protection and restoration of biodiversity and ecosystems as the development of green spaces and the improvement of already existing ones will create new habitats within the urban areas that will attract biodiversity.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The renovation of residential, commercial and public buildings, as part of the component include the installation of smart energy systems and appliances, which enable ICT-based and data driven services, increase their energy performance and support a better integration of buildings in the energy system, in smart districts and cities (including links with transport via smart charging infrastructure). The renovation wave will also provide an indirect opportunity to apply research and innovation results and scale up the successful industrial and clean energy transition initiatives. The construction ecosystem in the country is dominated by SMEs. This poses a severe constraint to the actual capacity of the sector to adapt and implement to a new environment where digital tools will become the norm.

The information, data and documentation generated in the different stages of a buildings' lifecycle are of enormous value to achieve quality renovations, upgrades, management of a building sustainably and communication across the construction ecosystem, owners, investors and authorities. Digital buildings logbooks and material passports will facilitate the collection, organization and hosting of information of a building accessible by one single gateway, and they shall be interconnected with energy performance certificates, renovation roadmaps and information collected in the context of the smart readiness indicator.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU. The Regulation COM (2020) 408 sets a binding target for at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The tagging has been performed on a subproject level for the Interventions in residential areas and in the building stock investment.

Title of reform or investment	Climate (%)	Digital (%)
Energy poverty action plan (ID:16920)	100%	0%
Energy renovation on residential buildings (ID:16872)	100%	0%
Green Interventions - Interventions in residential areas and in the building stock- Adaptation to climate change measures and prevention and management of climate related risks (ID:16873)	100%	0%
Eleonas/ Votanikos - Interventions in residential areas and in the building stock- Energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures (ID:16873)	40%	0%
Athens Riviera - Interventions in residential areas and in the building stock- Cycling infrastructure (ID:16873)	100%	0%
Other Strategic Interventions - Interventions in residential areas and in the building stock - - Energy efficiency and demonstration projects in large enterprises and supporting measures compliant with energy efficiency criteria (ID:16873)	40%	0%
Other Strategic Interventions - Interventions in residential areas and in the building stock- Construction of new energy efficient buildings (ID:16873)	100%	0%

Part 2: Description of reforms and investments

Other Strategic Interventions - Interventions in residential areas and in the building stock - Nature and biodiversity protection, natural heritage and resources, green and blue infrastructure(ID:16873)	40%	0%
Energy and entrepreneurship (ID:16874)	100%	0%
Energy upgrade of public sector buildings (ID:16876)	100%	0%
Infrastructure development and buildings' restoration in former royal estate in Tatoi (ID:16875)	40%	0%
Olympic Athletic Center of Athens (ID:16932)	40%	0%
Olympic Athletic Center of Athens (ID:16932)	0%	0%
Preparation of Urban Plans in implementation of the urban policy reform (ID:16879)	100%	0%
Establishment of new maritime spatial planning (ID:16891)	100%	0%
Establishment of new special spatial planning for RES, industry, tourism and aquaculture (ID:16894)	100%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the Renovation component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

Projects that are included in Component 1.4 in general focus on the EE upgrade of the country's building stock (public and private buildings) and key infrastructures, strategic urban interventions and spatial reform. As such, they exhibit a large degree of homogeneity which call upon for similar treatment from a costing perspective.

For the assessment of pure EE intervention projects in Component 1.4 a combination of top down with bottom up approaches have been largely utilized in order to enhance the costing. Especially the employment of bottom up approaches has been enabled from the fact that EE interventions are specific, well documented and there is a wealth of available information.

In total, the following tools have been employed:

- Detailed cost breakdown analysis and review of prefeasibility and feasibility studies, where applicable and feasible.
- Creation of unit costs and comparison with widely acknowledged benchmarks
- Comparison of unit costs with proprietary data
- Comparison of project components with previously implemented projects and historical data
- Particular emphasis has been placed on providing documentation from previously funded EU projects (EIB or NSRF).

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 1.3: Recharge and refuel

1. Description of the component

Policy area/domain: Urban mobility and transport

Summary: Transitioning to a green and sustainable transport system is a key challenge for Greece. This component promotes cleaner, smarter and cheaper forms of private and public transport. It introduces reforms that enable the installation and operation of Electric Vehicle (EV) charging equipment and promotes investments that will establish the required infrastructure in cities and other publicly accessible points of interest.

Recharge and Refuel contributes significantly to the reduction of GHG emissions and favours RES penetration in the energy mix. It also serves three objectives of the “EU Taxonomy Regulation”, namely, climate change mitigation, transition to a circular economy as well as pollution prevention and control.

Objective: The main objective of the component is to promote the green transition by structuring and coordinating efforts to make urban mobility cleaner, smarter, safer and fairer. This objective of Recharge and Refuel is in line with, and forms part of, the local Sustainable Urban Mobility Plans and the nationwide strategy of sustainable mobility (as depicted in the National Energy and Climate Plan-NECP). The related investments, which feature the improvement of the transport sector through transport electrification, are anticipated to significantly contribute to the reduction of GHG emissions. Moreover, the component contributes to the recovery, prosperity and resilience of the Greek economy through the reinforcement of new technologies in the design, construction, project management, products and services sectors, thus alleviating youth unemployment by creating employment opportunities for highly qualified human resources.

Link to the European Flagship: ‘Recharge and Refuel’

Reforms

- **Reform 1.** Framework for installation and operation of EV charging infrastructure (ID: 16281)

Key investments

- **Investment 1.** Electromobility (ID: 16924, COFOG 04.5)
- **Investment 2.** Produc- E Green (ID: 16831, COFOG 04.3)

Estimated sum of grants and loans: EUR 1,305 million, of which EUR 520 million (40%) are covered by RFF

2. Main challenges and objectives

a. Main challenges

Under the European Green Deal, the need to reduce EU’s greenhouse gas emissions through transport constitutes a main challenge on the way towards climate neutrality, setting the target at a 90% reduction in transport emissions by 2050⁴⁰. Greece is paving the way towards climate neutrality through its NECP, which includes the promotion of sustainable transport and e-mobility, as the transportation sector is responsible for 21% of the national GHG emissions in 2020.

The gradual electrification of the transport sector which will contribute to various dimensions of the NECP, constitutes a major challenge for Greece. The e-mobility market is at an early stage of growth on the

⁴⁰ European Green Deal, Chapter 2.1.5

national level, especially compared to the EU and global expansion. It is noticed that the most important problem of e-mobility is the high initial cost of electric vehicles, as well as the lack of the required charging infrastructure⁴¹. At the same time, the scarce development of a broad charging stations' network results in the public reluctance regarding the replacement of the current conventional vehicles. Therefore, the development of the required infrastructure is an important factor towards achieving considerable penetration of e-mobility in the country's fleet. Behavioural patterns are also an issue to be addressed regarding the transition to e-mobility, since conventional petroleum-based fuel stations do not meet the requirements of electric vehicles charging patterns (with respect to location and time required to charge the vehicle). Decarbonisation of the transport sector, following the imminent increase in usage of urban electric vehicles, will lead to considerable investments on power distribution network upgrades which are necessary to accommodate the increasing electricity needs⁴². Regarding new production related activities in the e-mobility sector, upcoming Greek companies and start-ups are looking for ways to finance or to further develop the production electric scooters, cars and chargers. Also, foreign companies are searching for opportunities to enter the Greek market for the establishment of production units for EVs, while the development of the Carbon Capture and Storage Facility will contribute to significant emissions reduction.

b. Objectives

This component's principal objective is the promotion of sustainable transport and electromobility in Greece. NECP sets clear yearly targets for the adoption of passenger electric vehicles in the country's vehicle fleet by 2030, resulting in a total figure of 330,000 EVs on the road within the next 10 years. Investing in e-mobility has the potential to reduce GHG emissions by 900 ktCO₂e during the period 2021-2030 (-5%).

All the proposed investments contribute to the reduction of CO₂ emissions and the dependence on oil, as well as to increase RES production in the energy mix. As recognised by the 2021 Annual Sustainable Growth Strategy, the investments in sustainable mobility can contribute both to GHG reductions and improvements to air quality, fostering at the same time productivity growth. Furthermore, the European Green Deal has called for accelerating the shift to sustainable and smart mobility, also in line with the NECP goals. The component serves climate mitigation objectives linked to the low-carbon circular economy and is in line with the commitment under the Paris Agreement on climate change as well as in accordance with the 2030 Agenda for Sustainable Development. Specifically, this components' serves directly or indirectly five Sustainable Development Goals, namely SDGs 7, 9, 11, 12 and 13⁴³, in the context of achieving the green transition as well as social resilience.

In this context, the component is in line with the 2020 and earlier Country Specific Recommendations (CSR) for Greece which stress the need to support green and digital transition, safe and sustainable transport and logistics, clean and efficient production and use of energy as well as very-high-capacity digital infrastructure. This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020. Specifically:

(i) Reform 1. Framework for installation and operation of EV charging infrastructure aims at addressing recommendations 2:2019 and 3:2020 through focusing on the green and digital transitions and sustainable transport.

⁴¹NECP, Chapter 2.3.2

⁴² Expected requirements based on the projected installation of rapid and ultra-rapid charging infrastructure to be estimated

⁴³ The United Nations Sustainable Development Goals (SDGs) served in this component are: SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all, SDG9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation, SDG11: Make cities and human settlements inclusive, safe, resilient and sustainable, SDG12: Ensure sustainable consumption and production patterns, SDG13: Take urgent action to combat climate change and its impacts

(ii) Investment 1. Produc-E Green aims at addressing recommendations 2:2019 and 3:2020 through focusing on the green and digital transitions and sustainable transport.

(iii) Investment 2: Electromobility aims at addressing recommendations 2:2019 and 3:2020 through focusing on the green and digital transitions and sustainable transport

The component also supports the European Flagship 'Recharge and refuel'⁴⁴ by promoting future-proof clean technologies to accelerate the use of sustainable, accessible and smart transport, charging and refuelling stations will make European cities and regions cleaner, accelerate the industrial transition and contribute to reaching the Paris climate objectives. By 2025, the flagship will aim to build one out of the three million charging points needed in 2030 and half of the 1000 hydrogen stations needed.

Also, this component serves directly or indirectly the ambitions of European Flagships "Modernise" through Investments 1,2 and 3.

c. National strategic context

The strategic objectives and priorities of the Recharge and Refuel component are aligned with the objectives, priorities, and policies of National and European Development Plans, contributing to the achievement of broader economic and social objectives.

Greece through the NECP, has adopted ambitious energy and climate targets for 2030, which are directly linked to the European Green Agreement and the strategic transition to climate neutrality in 2050, and to the United Nations Sustainable Development Goals. The objectives and the priorities proposed by the Recovery and Resilience Plan and especially Recharge and Refuel component are aligned with the objectives and policies of the NECP.

In direct connection with the objectives of the NECP, the component 1.3 promotes a more "green" and sustainable transport system in Greece, through the promotion of electric vehicles, which is expected to contribute both to the reduction of GHG emissions and to the achievement of energy savings, leading to the improvement of the energy and environmental footprint of the transport sector. The NECP has set a target of 30% share of the domestic vehicle market to account for electric vehicles until 2030, while 2020 saw the adoption of law 4710/2020 "Promotion of e-mobility in Greece". This law introduces the obligation for all Local Authorities to site the necessary publicly accessible charging infrastructure within their territories by 2022, following which, there will be a need for the installation of a significant amount of charge points in all Greek cities.

In the national strategic context, the Pissarides' Committee report⁴⁵, sets e-mobility as a significant parameter in the framework of increasing RES penetration in the domestic energy market. Moreover, this component acts in line or complements a number of reforms implemented or under implementation, namely, the establishment of a "National Register of Infrastructure", the reform of the legislative framework for Public Works and Infrastructure & Transport Services, the new institutional framework for the "Promotion of Safe Mobility and Road Safety", all under the competence of the Ministry of Infrastructure and Transport.

⁴⁴ EU COM (2020) 575, "Annual Sustainable Growth Strategy 2021"

⁴⁵ Growth Plan for the Greek Economy, (Interim report, July 2020), pp 115-125.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Framework for installation and operation of EV charging infrastructure (ID:16281)

b. Investments

Investment 1. Electromobility (ID:16924)

Investment 2. Produc-E Green (16831)

4. Open strategic autonomy and security issues

The four dimensions of environmental sustainability, productivity, fairness and macroeconomic stability identified in the 2020 Annual Sustainable Growth Strategy are the guiding principles underpinning the “Recharge and Refuel” component. The component is aligned with the EU’s aim of achieving competitive sustainability and cohesion through a new growth strategy, the European Green Deal and it aims to help repair the damage from the COVID-19 crisis and prepare a better future for the next generations.

The component focuses on promoting future-proof clean technologies to accelerate the use of sustainable, accessible and smart transport, charging and refueling stations and extension of public transport will make European cities and regions cleaner, accelerate the industrial transition and contribute to reaching the Paris climate objectives. By 2025, the flagship will aim to build one out of the three million charging points needed in 2030 and half of the 1000 hydrogen stations needed.

Moreover, the component contributes to the recovery, prosperity and resilience of the Greek economy through investments aim at boosting demand for zero- and low-emission vehicles, replacement of busses with electric ones and accelerate the rollout of recharging infrastructure that are also key for achieving this goal. All the component’s investments will contribute to the alleviation of local unemployment and will boost productivity. These investments are accompanied by the necessary regulatory reform to enable such investments and make them sustainable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Europe heads towards climate neutrality by 2050 and is set to significantly increase its greenhouse gas emissions reduction ambition for 2030. Aligned with the EU climate change ambition Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP,) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

Greece has identified the sectors that contribute to generation of greenhouse gasses and within the NECP describes the actions that will mitigate emissions and climate change. Transport is responsible for 21% of the national GHG emissions in 2020. According to NECP data for 2017⁴⁶[1], the transport sector has the largest contribution as a share to the final consumption of energy (41%). The sector is further responsible for a high environmental impact in terms of other air, water, soil and noise pollution. In terms of transport fuels, fossil fuels currently represent 97% of the energy use in the country⁴⁷. Measures addressing transport can bring significant greenhouse gas emission reductions and improvements to air quality, while fostering productivity growth. A target has been set in the NECP to increase the percentage of electric vehicles by 30% by 2030.

The reform and the investments of the component aim at boosting demand for zero- and low-emission vehicles, replacement of busses with electric ones and accelerate the rollout of recharging infrastructure that are also key for achieving this goal. This is complemented by investments that will fund industrial green production units with R&D departments and investment that will lead to the development of the first a Carbon Capture and Storage Facility in Greece. Significant environmental benefits are also expected from substituting fossil fuels with other, renewable fuels and electricity in terms of reduction in air, water, soil and noise pollution.

In addition, the component's proposed measures contribute to the green transition, taking into account the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reform and investments will contribute to:

- Climate change mitigation, as the measures proposed will result in direct reduction of greenhouse gases through the electrification of the transportation sector.
- Climate Change adaptation, as the investments and reforms will reverse the current adverse impact on climate and enhance future climate for people, nature or assets.
- Pollution prevention and control due to the significant decrease in the emissions of pollutants into air as compared with the current situation.

There are also clear commitments and mechanisms in each of the reform and investment to ensure that the do no significant harm principle is respected and effectively implemented for the other environmental objectives as defined in the EU Taxonomy Regulation. The measures will not impair the sustainable use and protection of water and marine resources, the transition to a circular economy, nor the protection and the restoration of biodiversity and ecosystems.

⁴⁶ NECP, Chapter 3.8

⁴⁷ Country Report Greece, 2020, Chapter 4.5

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The measures described in this component will contribute to the digital transition through the promotion of smart, integrated mobility solutions. New and high technologically advanced clean vehicles are equipped with digital components. Deployment of intelligent transport systems and 5G based infrastructure for connected and automated mobility will enhance traffic and mobility management at urban level is, together with collection of mobility data, systematic use of digital tickets and digital payment systems. The component also aims to facilitate the entry of new and innovative digital mobility solutions, mostly on the back of access to mobility data.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU. The Regulation COM (2020) 408 sets a binding target for of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The tagging has been performed on a subproject level for the Electromobility investment.

Title of reform or investment	Climate (%)	Digital (%)
Produc-E Green (ID - 16831)	100%	0%
Framework for installation and operation of EV charging infrastructure (ID - 16281)	100%	0%
Electromobility- Charging Points (ID - 16924)	100%	0%
Electromobility- Busses/ Taxis (ID - 16924)	100%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the Recharge and Refuel component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:

- a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
- indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
- budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)
- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks

- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

Project that are included in Component 1.3 aim at promoting sustainable urban mobility and storage of energy, as well as supporting small- and large-scale industrial production related to the aforementioned topics. The cost assessment methodologies that have been used are in general top down approaches combined with parametric elements depending on the case. For all activities that are related to electromobility (vehicles or chargers) extensive market research has been done in order to map current market prices. The costing analysis for the support of small and large-scale industrial units was in general more complex due to specificity of the topic and the difficulty to obtain sensitive commercial data.

In general, the following tools have been employed:

- Detailed cost breakdown analysis and identification of the cost drivers
- Analysis of prefeasibility studies for similar projects
- Examination of the contribution of each cost parameter to the total budget
- Comparison with unit costs and historical figures from similar projects and technologies

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 1.4: Sustainable use of resources, climate resilience and environmental protection

1. Description of the component

Policy area/domain: sustainable management and protection of water and marine resources, circular economy, recycle, biodiversity, climate change adaptation, balanced regional development of rural areas including mountain and island regions within the context of decentralization, transformation of the agricultural sector of the Greek economy, protection and natural disasters management, adaptation to the climate change in flood protection strategies.

Summary: Europe aims to make the EU's economy sustainable by turning climate and environmental challenges into opportunities and making the transition just and inclusive for all. This component introduces reforms and investments related to reforestation and biodiversity protection, national irrigation network, wastewater and water management, waste management law implementation, project for water supply and flood mitigation means and equipment that will prevent and ensure quick, efficient and coordinated responses against natural disaster and climate change phenomena; thus clearly promotes environmental protection and improves resilience in natural risks.

Greece has aligned its strategy with the EU Green Deal and has developed a concrete action plan that will boost the efficient use of resources by moving to a clean, circular economy; will restore biodiversity and eliminate pollution. The component serves the objectives of the “EU Taxonomy Regulation” and aligns with the scope of the RRF around six pillars: green transition; digital transformation; economic cohesion, productivity and competitiveness; social and territorial cohesion; health, economic, social and institutional resilience; policies for the next generation.

Objective: The main objective of the component is to promote green transition through the enhanced efficient usage of natural resources, specifically through waste management and protection and restoration of natural environment. The objectives include the improvement of environmental infrastructure, biodiversity protection as well as recovering forest cover losses, which, in overall, will advance the protection from environment-related risks and impacts for both the society and the economy. Moreover, the component contributes to the recovery, prosperity and resilience of the shipGreek economy through investments in the improvement of drinking water supply and quality infrastructures and management, thus alleviating local unemployment by creating employment opportunities for highly qualified human resources.

Reforms and/or Investments:

Reforms:

- Reform 1. Waste management reforms for the implementation of sustainable landfilling and recycling, banning of single use plastics and promotion of reduction of waste (ID: 16772)
- Reform 2. Establishment of new water and wastewater regulatory authority (ID: 16979)

Investments:

- Investment 1. Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment Plants (ID: 16846, COFOG 05.2)
- Investment 2. Drinking Water Supply and Saving Infrastructures (ID: 16850, COFOG 06.3)
- Investment 3. Biodiversity protection as a driver for sustainable growth (ID: 16851, COFOG 05.4)
- Investment 4. National Reforestation Plan and Parnitha Flagship Investment (ID: 16849, COFOG 05.4)

- Investment 5. Aerial means for crisis management (ID: 16911, COFOG 02.2)
- Investment 6. Monitoring and management system (ID: 16910, COFOG 02.2)
- Investment 7. Establishment of a strategic National Disaster Risk Management (ID: 16909, COFOG 02.2)
- Investment 8. Forest firefighting, prevention and response equipment (ID: 16912, COFOG 02.2)
- Investment 9. Investment in the national irrigation network through PPP schemes ID: 16285, COFOG)
- Investment 10. Flood mitigation projects (ID: 16882, COFOG)
- Investment 11. Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes (ID: 16283, COFOG)
- Investment 12. Water Supply Projects (ID: 16898, COFOG)

Estimated cost: EUR 2,726 million, of which EUR 1,763 million (65%) are covered by RFF

2. Main challenges and objectives

a. Main challenges

Sustainable use of resources, climate resilience and environmental protection include policy areas that are marked as particularly challenging for Greece by the 2019 and 2020 Country Specific Recommendations (CSRs). The European Green Deal has led Greece to focus on environmental issues related to management of waste and wastewater, drinking water, biodiversity, reforestation and protection from climate change phenomena in order to incorporating actions plans in the national strategies.

Environmental protection has been an area where Greece presents serious and long-standing inefficiencies, notably in the management of solid waste and water waste⁴⁸[1]. As clearly underlined in the 2019 CSRs⁴⁹ in order to align the country's environmental protection standards with the rest of the EU, the country should mainly focus on additional reforms that will ensure proper treatment of both solid waste as well as urban and industrial wastewater. Increased investments are also required to fully comply with the Water Framework Directive and the Floods Directive and in order to proceed with the implementation of important actions such as the removal of obstacles to fish migration, the re-naturalization of the flow of rivers as well as measures for flood prevention and mitigation. Meanwhile, the 2021 Annual Sustainable Growth Strategy explicitly urges member states to take actions in order to promote a more circular economy, improve environmental infrastructure as well as protect and restore biodiversity

Ineffective wastewater treatment presents significant risks and is spherically affecting environmental management on a national level.

48 2020 Country Report p.16

49 Recital 16, CSRs 2019

Only about 90% of the generated load of urban wastewater treatment is connected to collecting systems, representing slightly more than half of the Greek agglomerations⁵⁰. This creates a major challenge as there are areas that cannot be served by sewage networks and require the use of septic tanks. Due to their poor structural construction and age, the septic tanks are absorbent, resulting in polluting the wider natural and man-made environment. It is noted that EC Directive 91/271 and EC Water Directive 60/2000 require adequate treatment of urban wastewater in order to ensure the safety, control and quality of natural water. Non-compliance with the respective regulatory framework not only leads to environmental degradation and lower life quality conditions to the communities but also to the imposition of monetary fines.

The operation of urban wastewater treatment plants poses a potential pollution threat to the natural and man-made environment in large cities and/or in areas with a significant population. The current common practice includes the disposal of the Wastewater Treatment Plant outflows to water recipients, resulting in loss of significant quantities that could potentially be used for irrigation (public areas and/or crops). Sludge management creates further challenges which arise from the treatment of urban wastewater, as a by-product. The common practice for treatment constitutes of the disposal, either in uncontrollable and illegal landfills, or in legitimate landfills. However, in accordance with EU Directive 2008/98 and the recent Circular Economy Directives 850 & 851/2018 this practice must be terminated. The cumulation of these amounts of sludge poses an environmental risk (and in some cases a risk of toxicity) and could be treated by appropriate methods and even exploited in agriculture.

Drinking water infrastructure network doesn't respond to the existing supply and management needs.

The age of the water supply networks jeopardizes the adequacy of supply and the quality of drinking water while also creates potential threats to public health. Many of the water supply networks are made of asbestos-cement pipes and have no leak detection systems. This results in water losses and irrational management of water resources, leading subsequently to irrational costing.

In remote islands water supply is based on boreholes or wells and, complementary, on water transportation from surplus areas, by water trucks or tankers. Similar challenges are faced by coastal areas, where it is technically impossible to abstract the necessary quantities of high-quality drinking water from drilling. Furthermore, drilling water in certain areas is abstracted through geological formations which results to the water's enrichment with hazardous substances and heavy metals. These practices generate threats both to public health and to the sustainability of drinking water supply. In this context, such drinking water supply issues disproportionally challenge geographically disadvantaged areas and are create threats in achieving economic, social and territorial cohesion.

Weaknesses in the national biodiversity protection framework.

Natural protection and restoration will play a critical role in Europe's economic recovery from the COVID-19 crisis⁵¹. The Greek ecosystem, despite the country's relatively small size (1.3% of Europe and 3% of the European Union's area), contributes significantly to the European biodiversity, with almost 32% of the

⁵⁰ 2020 Country Report, p. 57

⁵¹ COM(2020) 380 final

known European species being present in Greece. It is noted that 27.3% of the country's land area and almost 20% of its marine regions have been included in the Natura 2000 network. However, the following issues continue to be challenging: a) the monitoring degree of biodiversity and its threats, b) how effectively the conservation of biodiversity is achieved in protected areas and c) whether the country's protected areas and unique biodiversity are efficiently involved in promoting local and regional growth and employment. Investing in the national biodiversity protection framework, in this context, should not only halt biodiversity loss, but also enhance green economy, reconcile environmental protection with socio-economic development as well as restore ecosystems and their services through infrastructure improvements.

Climate change adaptation related strategies and infrastructure need reinforcing.

Climate change⁵² constitutes a major factor related to several natural disasters that the country has experienced. Forests are significantly vulnerable to climate change; it is therefore important to maintain and enhance their resilience through adaptive solutions⁵³. The past 4 years in Greece -especially 2017 and 2018- there was an increase in number of forest fires. Indicatively in 2017 fire more than 1.000 fires were recorded, with an affected burnt area of almost 14.000 hectares, mainly forests. The source for most of these incidences is associated with traditional agricultural burning practices or deliberate clearing of areas for housing construction; for many fire incidents though, the cause remains unknown. It is widely acknowledged that climate change phenomena, such as extremely warm summer weather conditions, often combined with strong winds result in increased fire risk.

As a result, forest cover loss creates major pressures to the ecosystem and may be responsible for increased flooding. From an investment standpoint, recovering areas of forest loss through reforestation poses additional challenges, as reforestation may have high upfront costs, especially when compared to the upfront costs required by other types of forestry projects, with labor costs constituting the highest expense category.

b. Objectives

Following the respective 2019 and 2020 CSRs⁵⁴, the strategic guidelines of the European Green Deal as well as the 2021 Annual Sustainable Growth Strategy, the present component targets the achievement of EU sustainability goals through actions that support circular economy and water management, environmental infrastructure, climate change mitigation and adaptation including biodiversity. The proposed actions acknowledge that, in order to achieve a resilient economic and social recovery from the pandemic crisis, it is critical to invest in nature protection and restoration. Also in the context of the EU

52 With regard to climate change adaptation, Greece has already developed and adopted by means of Law 4414/20 the National Strategy for Adaptation to Climate Change, which sets out the general objectives, guidelines and means of implementation of a modern, effective and developmental climate change adaptation strategy within the framework set by the United Nations Convention on Climate Change, EU directives and international experience.

53 COM (2013)659 final, pp 8-9

54 CSR 2, 2019; CSR 3, 2020

Biodiversity Strategy for 2030⁵⁵, this component is fully in line with the European Green Deal as EU's growth strategy aiming to ensure that the "economy serves people and society and gives back to nature more than it takes away". The EU Circular Economy Action Plan also strongly relates to objectives of this component with respect to achieving effective waste management. Climate adaptation related investments aiming at restoring forest ecosystems and providing flood protection additionally serve NECP objectives related to climate change and reduction of GHG emissions. Specifically,

(i) Reform 1. Waste management reforms for the implementation of sustainable landfilling and recycling, banning of single use plastics and promotion of reduction of waste aims at addressing recommendations 2:2019 and 3:2020 by focusing on waste management, circular economy and recycling.

(ii) Reform 2. Establishment of new water and wastewater regulatory authority aims at addressing recommendations 2:2019 and 3:2020 by focusing on the circular economy and water consumption.

(iii) Investment 1. National Reforestation Plan and Parnitha flagship investment aims at addressing recommendations 2:2019 and 3:2020 by focusing on the environmental protection, through reforestation activities.

(iv) Investment 2. Investment in the national irrigation network through PPP schemes aims at addressing recommendations 2:2019 and 3:2020 by focusing on the circular economy and water consumption

(v) Investment 3. Flood mitigation projects aim at addressing recommendations 2:2019 and 3:2020 by focusing on the protection from natural disasters and climate change mitigation, through flood mitigation projects.

(vi) Investment 4. Aerial means for crisis management aims at addressing recommendations 2:2019 and 3:2020 by focusing on the green and digital transition as well as civil protection.

(vii) Investment 5. Development of an innovative Monitoring and Management System aims at addressing recommendations 2:2019 and 3:2020 by focusing on the green and digital transition as well as civil protection.

(viii) Investment 6. Establishment of a strategic National Disaster Risk Management aims at addressing recommendations 2:2019 and 3:2020 by focusing on the green and digital transition as well as civil protection.

(ix) Investment 7. Forest Firefighting prevention and response equipment aims at addressing recommendations 2:2019 and 3:2020 by focusing on the green and digital transition as well as civil protection.

55 COM(2020) 380 final

(x) Investment 8. Biodiversity protection as a driver for sustainable growth aims at addressing recommendations 2:2019 and 3:2020 by focusing on the protection of biodiversity.

(xi) Investment 9. Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment Plants aims at addressing recommendations 2:2019 and 3:2020 by focusing on the circular economy and water consumption

(xii) Investment 10. Drinking Water Supply and Saving Infrastructures aims at addressing recommendations 2:2019 and 3:2020 by focusing on water consumption

(xiii) Investment 11. Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes aims at addressing recommendations 2:2019 and 3:2020 by focusing on the green and digital transition as well as civil protection.

(xiv) Investment 12. Water Supply Projects aims at addressing recommendations 2:2019 and 3:2020 by focusing on water consumption

This component's actions are aligned with a number of Sustainable Development Goals, namely SDGs 11, 13 and 15⁵⁶.

c. National strategic context

The strategic objectives and priorities of the Renovate component are aligned with the objectives, priorities, and policies of National and European Development Plans, contributing to the achievement of broader economic and social objectives.

Within the national strategic context, the "Sustainable use of resources, climate resilience and environmental protection" component promotes effective protection and restoration of the natural environment, strengthening the circular economy, and improving resilience to climate change. The component's reforms and investments are aligned with the European Green Agreement and the NECP, as well as with the national strategies for Circular Economy, biodiversity and forest protection. Moreover, the component includes, national crisis management and risk management plans which promote actions for coordination and implementation of effective crisis management and effective response to all kinds of emergencies, due to natural, technological or other disasters and threats. The aim of the component is to create an integrated and coherent framework for sustainable development in Greece.

More specifically, the reforms and investments aim to modernise drinking water supply and irrigation networks, optimise water usage and reduce losses, promote environmental friendly farming methods, extensive reforestation to restore forest ecosystems throughout the country, as well as actions to protect biodiversity and preserve and promote domestic ecosystems. Through these investments, the Environmental Protection, the sustainable management of Natural Resources and the protection against

⁵⁶ SDG:11. Make cities and human settlements inclusive, safe, resilient and sustainable, SDG 13: Take urgent action to combat climate change and its impacts and SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

climate change are enhanced, while the local socio-economic development and the creation of new jobs and new opportunities are stimulated. Also, the investments and reforms aiming at strengthening the mechanisms of early prognosis and treatment of natural disasters and all kinds of emergencies.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Waste management reforms for the implementation of sustainable landfilling and recycling, banning of single use plastics and promotion of reduction of waste. (ID:16772)

Reform 2. Establishment of new water and wastewater regulatory authority (ID:16979)

b. Investments

- Investment 1. Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment Plants. (ID:16846)
- Investment 2. Drinking Water Supply and Saving Infrastructures. (ID:16850)
- Investment 3. Biodiversity protection as a driver for sustainable growth. (ID:16851)
- Investment 4. National Reforestation Plan and Parnitha flagship investment. (ID:16849)
- Investment 5. Aerial means for crisis management. (ID:16911)
- Investment 6. Monitoring and management system. (ID:16910)
- Investment 7. Establishment of a strategic National Disaster Risk Management. (ID:16909)
- Investment 8. Forest firefighting, prevention and response equipment. (ID:16912)
- Investment 9. Water Supply project. (ID:16898)
- Investment 10. Flood mitigation project. (ID:16882)
- Investment 11. Investments in the national irrigation network through PPP schemes. (ID:16285)
- Investment 12. Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes. (ID:16283)

4. Open strategic autonomy and security issues

The four dimensions of environmental sustainability, productivity, fairness and macroeconomic stability identified in the 2020 Annual Sustainable Growth Strategy are the guiding principles underpinning the component's objectives. The component is aligned with the EU's aim of achieving competitive sustainability and cohesion through a new growth strategy and it aims to help repair the damage from the Covid-19 crisis and prepare a better future for the next generations.

The component focuses strongly on investments and reforms supporting the green transition. Each investment and reform include a minimum of 37% of expenditure related to climate as the European Council suggests, to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU. Also, the component will improve the energy and resource efficiency of through the enhanced efficient usage of natural resources, specifically through waste management and protection and restoration of natural environment.

Moreover, the component contributes to the recovery, prosperity and resilience of the Greek economy through investments in the improvement of drinking water supply, quality infrastructures and projects that will enhance national security and management. Also, Civil Protection mechanisms will provide immediate response to natural disasters or emergency air transportations. All the component's investments will contribute in the alleviation local unemployment and will boost productivity.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Europe aims to develop a sustainable economy that turns climate and environmental challenges into opportunities and makes the transition just and inclusive for all. Greece has aligned its strategy with the EU Green Deal and has developed a concrete action plan that will boost the efficient use of resources by moving to a clean, circular economy and will also restore biodiversity and cut pollution.

This component effectively serves a wide set of objectives on Green transition. This is achieved through two major axes of actions: (i) Efficient use of natural resources and promotion of circular economy, particularly through effective waste management and (ii) Climate change adaptation and mitigation through the protection and restoration of the natural environment.

In accordance with the 2020 and 2019 CSRs this component includes environmentally sustainable actions to promote urban wastewater management. About 96.9 ktons/yr of sludge are expected to be handled and diverted from uncontrolled disposal while it is expected to reach a 55% increase in recovery/ recycling by 2025. These actions serve the related National Circular Economy Strategy, adopted by the Central Economic Policy Council on 17 April 2018 and are in line with to EU Directives 91/271, 60/2000, 850 and 851/2018 on the Circular Economy.

The set of investments related to reforestation and biodiversity protection promote environmental protection and improve resilience in natural risks. The component's proposed investments are expected to contribute to an increase of the forest cover area by 16.500ha, while species protection is expected to rise by 8% and the overall quality of natural environment by 5%. At the same time, investments targeting the improvement of technological equipment will excel the operations related to firefighting and natural disaster monitoring and will contribute to natural environmental protection, social and economic resilience arising from the preparedness and imminent responsiveness to natural disaster and fire events.

In addition, the component's proposed measures contribute to the green transition, considering the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reform and investments will contribute to:

- Climate change mitigation through the improved operation of facilities that will lead to an improved carbon footprint. Forest will also contribute to climate change mitigation through maintaining or enhancing the forests' role as sinks in the carbon cycle and by providing bio-materials that can act as temporary carbon stores or as 'carbon substitutes.
- Climate change adaptation through the protection and restoration of the natural environment. Forests alleviate the impact of extreme weather events by moderating temperatures and reducing wind speed and water run-off.
- Sustainable use and protection of water and marine resources: The component incorporates significant investments aiming to increase efficiency in water usage, upgrade the existing water supply network and improve drinking water quality.
- Circular economy with the transition waste prevention and recycling. The suggested investments aim to resolve waste management and treatment challenges and promote recycling practices.
- Pollution prevention and control through the efficient management of air and water emissions.
- Protection and restoration of biodiversity and ecosystems as the proposed investments promote recreation in protected areas, protection of the marine environment and upgrade of related infrastructure and equipment to protect biodiversity. The development of hiking trails and the

firefighting means will enhance environmental protection, while the aerial monitoring system and the system for permanent monitoring of species and habitat types will protect and attract biodiversity within the urban and suburban areas.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The “Drinking Water Supply and Saving Infrastructures” investment of this component includes the installation of digital hydrometers and automatic management and control systems for the detections of leaks in water supply networks. These are supplies that serve the optimal management of water resources and the full traceability of the water balance at consumer level. For this reason, in areas where they have integrated water networks that function well and are modern constructed, the installation of digital hydrometer equipment by replacing conventional ones is important, in order to deal, directly, with possible leaks and/or damages at the consumer level, while avoiding 'non-payment' of unpriced water.

Furthermore, the “Biodiversity protection as a driver for sustainable growth” investment promotes the creation of an integrated digital platform which offers information on protected areas such as ecotourist activities etc., the digital recording of existing NHCs according to international standards, the first level digitization (photography) and second level (3D scanning) aiming at addressing all the main challenges identified for Greece for the implementation of EU environmental policy and law (The EU Environmental Implementation Review 2019, Country Report – GREECE).

Also, the component promotes the establishment of new and improvement of existing technological equipment that will contribute to the protection of natural environment as well as citizens life. The technological equipment includes development of a GPS monitoring system used for emergency services, a monitoring system for the early warning of natural disasters, aiming to improve communication, preparedness and responsiveness to natural disasters. Besides, the component promotes the provision of digital equipment for GSCP buildings and the development of mobile administration.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU. The Regulation COM (2020) 408 sets a binding target for of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

Title of reform or investment	Climate (%)	Digital (%)

Part 2: Description of reforms and investments

Water Supply Projects (ID: 16898)	40%	0%
National Reforestation Plan and Parnitha flagship investment (ID: 16849)	100%	0%
Infrastructures from Wastewater Treatment -New infrastructure (ID: 16846)	0%	0%
Renovated infrastructure - Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment (ID: 16846)	40%	0%
Investments in the national irrigation network through PPP schemes (ID: 16285)	40%	0%
Drinking Water Supply and Saving Infrastructures (ID: 16850)	40%	0%
Aerial means for crisis management (ID: 16911)	100%	0%
Flood mitigation projects (ID: 16882)	100%	0%
Forest firefighting, prevention and response equipment (ID: 16912)	100%	0%
Biodiversity protection as a driver for sustainable growth (ID: 16851)	40%	0%
Infrastructure - Establishment of a strategic National Disaster Risk Management (ID: 16909)	100%	0%
Monitoring and Management System (ID: 16910)	100%	0%

Part 2: Description of reforms and investments

Establishment of new water and wastewater regulatory authority (ID: 16979)	40%	0%
Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes (ID: 16283)	40%	0%
Waste management law for the implementation of sustainable landfilling and recycling (ID: 16772)	40%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation.

Each one of the investments and reforms of the Sustainable use of resources, climate resilience and environmental protection component were initially assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems).

The checklist assessment concluded that the investments:

- Investments in the national irrigation network through PPP schemes
- Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes
- National Reforestation Plan and Parnitha flagship investment
- Flood mitigation projects
- Water Supply Projects

required a substantive DNSH assessment. The assessment showed that none of these measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

Projects that belong in Component 1.4 regards the promotion of sustainable development, the protection of diversity, irrigation and water infrastructure projects, as well as projects related to civil protection. Due to the generic overarching character of sustainability and climate resilience these projects span over a wide spectrum and are characterized by large diversity.

In this context, various approaches have been employed with the most prominent being bottom-up approaches for civil protection projects which mostly regard the procurement of specialized equipment. For such projects cost validation has been based on the review of historical figures/benchmarks per item/component from similar projects, extensive market research and estimation of a unit value costs.

For projects related to Urban Wastewater and Sludge Management, Urban Wastewater and Sludge Management, reforestation, water supply, irrigation, flood mitigation a combination of top down and bottom up approaches has been employed depending on data availability and more specifically:

- Thorough analysis of prefeasibility and feasibility studies where made available
- Identification of the key cost drivers and examination of the contribution of each cost parameter to the total budget
- Development of unit costs and comparison in terms of unit costs with previously implemented projects in Greece, with specific focus on EU funded projects where feasible.

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

Part 2: Description of reforms and investments, Digital

COMPONENT 2.1: Connect

1. Description of the component

Policy area/domain: Connect

Summary: The European Union, recognizing the catalytic role of connectivity in developing the digital single market and securing its digital future, has developed the Digital Agenda for Europe 2020, aiming to provide consumers and businesses with better access to digital assets and services across Europe, creating the proper environment for the development of digital networks and services and maximizing the growth potential of the digital economy.

Greece should accelerate its efforts in connectivity, which is a key prerequisite for digital transition. The aim of this component is, on one hand, to implement investments to facilitate installation of fibre optic infrastructure and develop 5G networks covering all major Greek motorways and, on the other hand, reforms to ensure switch to fast broadband connections and transition to 5G technology. In this respect, the legislative actions already undertaken (L.4635/2019 and L.4727/2020) have established a roadmap for the development of modern network infrastructure and for the establishment of Phaistos Fund, which will play a key role in the 5G deployment, creating the necessary ecosystem to tap the full potential of the new generation technology.

The implementation of investments is expected to accelerate the adoption of next-generation infrastructure by the citizens, increase the capabilities of the Greek high-technology industry and develop the necessary infrastructure that will serve the needs for Connected and Autonomous Mobility. In addition, reforms aim to improve Greece's position in the international ranking of broadband connections and to strengthen all services provided through those connections as well as to facilitate the development of innovative remote services.

The deployment of very high capacity networks, in particular 5G and fibre optic networks in urban and rural areas, as well as the utilization of space technologies and applications and their incorporation in the national economy will generate important spillover effects across society and the economy, including job creation, new and better opportunities for the industry sector, higher efficiency and productivity both for citizens and businesses.

Objective: The key objectives of the Component include (i) the facilitation of fibre optic infrastructure installation (b) the development of 5G networks covering major Greek highways, (c) the switch to fast broadband connections and transition to 5G technology, and (d) the utilization of space technologies and applications.

The implementation of the proposed investments is expected to accelerate the use of next generation technological infrastructure by citizens and businesses, to increase the potential of the digital transformation of the Greek industry, to upgrade the interconnection of the island regions of the country and to develop the necessary infrastructure that will serve the needs for Connected and Autonomous Mobility. In addition, the proposed reforms aim (a) to improve Greece's position in the EU and international ranking through the uptake of ultra-high speed broadband connections, (b) to enhance all services provided through these connections, and (c) to facilitate the development of innovative digital services.

The development of very high capacity networks and the utilisation of small satellites will have significant spillover effects on society and the economy as a whole, including the creation of new jobs, new and better opportunities for industry, higher efficiency and productivity for both citizens and companies, while increasing Europe 's digital strategic autonomy. The Component is also expected to increase the availability, security and resilience of government communication networks.

Link with European Pillar: Digital transformation

Link to the European flagship: "Connect"

Reforms and investments

Reforms

- **Reform 1.** Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand. (ID: 16857)
- **Reform 2.** Transition to 5G technology, facilitating the development of innovative remote services. (ID: 16844)

Investments

- **Investment 1:** Fiber optic infrastructure in buildings (ID: 16818, COFOG: 04.6)

- **Investment 2:** Submarine fibre cables (ID: 16962, COFOG: 04.6)
- **Investment 3:** 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks. (ID: 16834, COFOG: 04.6)
- **Investment 4:** Small-Satellites (ID: 16855, COFOG: 04.6)

Estimated cost: EUR 582 million, of which EUR 522 million (90%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

The digital transformation of the Greek economy and society remains one of the most challenging areas. According to the Country Report 2020, Greece has one of the least advanced digital economies in the EU. Specifically, according to the Digital Economy and Society Index (DESI) 2020, which captures performance in the areas of connectivity, human capital, use of internet services, integration of digital technology and digital public services, Greece ranks 27th out of the 28 EU Member States in the overall DESI 2020. In particular, with regards to connectivity, Greece ranks last among EU countries with a connectivity score 33.4 (compared to EU average of 50.1). The connectivity sub-index shows that Greece lags behind the EU average into the following areas: ‘overall fixed broadband take-up’, ‘at least 100 Mbps fixed broadband take-up’, ‘fast broadband (NGA) coverage’, ‘fixed very high capacity network (VHCN)’, ‘mobile broadband take-up’, ‘5G readiness’ and in the ‘broadband price’ index. In this context, the successful implementation of the proposed connectivity reforms and investments is expected to significantly improve Greece’s position in DESI ranking.

Moreover, the Country Report 2020 highlights that in the area of connectivity the transition to fast and ultrafast broadband in Greece is much slower than in the rest of the EU. The main priority for Greece is ‘Ultra-Fast Broadband’, which aims to help the country fill the gaps on very-high-speed connectivity and achieve its ‘gigabit society’ targets. Although the national broadband plan has been updated, there are considerable delays in project implementation, whilst the absorption of allocated funds remains low. The use of internet services is increasing, while regional disparities in terms of access to the internet are particularly high, especially in the Greek islands.

Based on the 2019 European Semester/Country Specific Recommendations report, insufficient higher speed broadband connectivity creates major bottlenecks for dynamic export oriented businesses. Moreover, the European Semester emphasizes that *“improving availability of very-high-capacity networks and uptake of very high-speed internet is a priority”* for Greece. The CSR 3 of 2020 Council recommendations calls Greece to focus on investments related to digital transition and particularly on very-high-capacity digital infrastructure.

To foster the upgrade and expansion of broadband services, the emphasis has historically been on supply-side policies to promote the deployment of broadband networks. More, better and faster connectivity is an essential prerequisite for the digital transition by guaranteeing ubiquitous internet access and availability of digital services, which is indispensable for everyday activities - economic, social or cultural. It also promotes social inclusion and benefits rural and remote regions. Countries lagging behind in very-high-capacity digital infrastructure face the risk of comparatively lower corporate and employee efficiency and productivity across many sectors of the economy.

The covid-19 pandemic has brought to the forefront important challenges, such as remote work and use of public services, and bottlenecks that need to be addressed in order to increase resilience as well as territorial and social cohesion. It has also shown how important digital assets have become to economies and how networks and connectivity as well as basic and advanced digital skills sustain economies and

societies by allowing work to continue. Therefore, expanding and improving connectivity in the new era, plays an integral role not only in the digital transition, but also in economic and social inclusion.

Moreover, a critical factor for increased connectivity is the development of proper infrastructures into Greek islands (i.e. through modern submarine fiber optic cables), which will connect the mainland with islands and Cyprus, aiming to enhance citizens' access to higher network speeds. Specifically, most islands' connections are characterized by low capacity connections (mainly wireless) which deprive sufficient broadband speeds of end-user service. Having high-speed connections is vital for the development of the local economy and especially for the sustainable growth of the tourism sector.

In addition, the country faces the challenge to adapt applications and services for search and rescue, border surveillance, national security, civil protection and environmental protection. The implementation of a small-satellite system (space and terrestrial part) is expected to increase the capabilities of the Greek high-tech industry.

In order to invest in appropriate very high capacity connectivity to reach the EU's 2025 Gigabit Society and 5G connectivity targets, it is also necessary to address the underlying root causes that prevent efficient investment in connectivity infrastructure and take up of connectivity services by households and businesses.

b. Objectives

The component is in line with the CSR 3 for 2020, which recommends focusing investment on digital transition and particularly on very-high-capacity digital infrastructure investment and investment-related reforms on high capacity digital infrastructure. Specifically:

(i) Reform 1. Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand (ID: 16857) aims at addressing CSR 3 for 2020 by enabling the switch to much faster and enhanced connectivity.

(ii) Reform 2. Transition to 5G technology, facilitating the development of innovative remote services (ID: 16844) aims at addressing CSR 3 for 2020 by enabling the transition to the 5G technology in the new digital era.

(iii) Investment 1. Fiber optic infrastructure in buildings (ID: 16818) aims at addressing CSR 3 for 2020 by facilitating the installation of fibre optic infrastructure in buildings.

(iv) Investment 2. Submarine fibre cables (ID: 16962) aims at addressing CSR 3 for 2020 by deploying modern submarine fibre cables to connect Greece's mainland with the Greek islands and Cyprus.

(v) Investment 3. 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks (ID: 16834) aims at addressing CSR 3 for 2020 by developing 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks.

(vi) Investment 4. Small-Satellites (ID: 16855) aims at addressing CSR 3 for 2020 by developing a constellation of small-satellites with Telecommunications and Earth Observation payloads for the development of geomonitoring applications and services.

The component mainly supports the European Flagship “Connect” by improving access to very high capacity networks and contributing to ensuring that, by 2025 the widest possible uninterrupted 5G coverage in all areas will be achieved. This will foster take-up and ensure that households and enterprises could take advantage of the country's digital transformation.

The accelerated deployment of very high capacity networks, in particular 5G and fibre networks in urban and rural areas, will generate important spill-over effects across society and the economy, providing the necessary infrastructure to handle emerging and future processes and applications. It will provide industry with new opportunities and make rural areas more attractive for businesses and young generations, whilst increasing Europe's digital strategic autonomy.

Particular attention will be paid to ensure ubiquitous access to very high capacity digital connectivity in rural and remote areas, where business operators still lack a business case or profitability prospects for infrastructure deployment. This will help address the ongoing depopulation of rural communities by increasing employment opportunities, including through the introduction of Information and Communications Technologies (ICTs) in agriculture and other key sectors of economy, and by ensuring better access to key services such as health care.

The proposed investments are taking steps in developing the infrastructure on 5G networks and increasing ultrafast broadband coverage, in line with the Digital Transformation Bible (DTB), which reflects the guiding principles and the necessary short-term and medium-term interventions that will successfully materialise the Greek vision for Digital Greece. DTB meets the three key objectives of "Shaping Europe's digital future", i.e. (a) Technology that works for people, (b) A fair and competitive economy, and (c) An open, democratic and sustainable society. Additionally, the DTB is coherent with (d) Priorities of European Green Deal addressed by DTB and aims to implement digital actions fully respecting EU climate, environmental and social priorities.

The envisaged objectives have been facilitated by legislative actions already undertaken. Specifically, L.4635 (October 2019) provided a roadmap for the development of modern network infrastructure, including fibre optic networks, 5G networks, WiFi networks, smart city infrastructure, smart automated driving infrastructure and all kinds of fixed, wireless and satellite infrastructure and telecommunications networks, as well as the specialised networks operating as the Internet of Things (IoT). Moreover, L. 4727 (September 2020) provided for the establishment of Phaistos Fund, which will play a key role in the 5G deployment with the aim to invest in companies working in the technology sector, mainly focusing on research and development of systems working on the 5G infrastructure, thus creating the necessary ecosystem within Greece to tap the full potential of the new generation technology.

Link to the European Semester: All proposed investments and reforms address CSR 3 of 2020 Council recommendations, which calls Greece to focus investment on digital transition and particularly on very-high-capacity digital infrastructure. They aim to increase investments in very high-capacity digital infrastructure, with a view to increasing coverage and take-up.

c. National strategic context

Within the national strategic context, connectivity is a key prerequisite for the digital transformation of Greece, as the expected economic and social benefits can only be achieved based on the foundations of an extensive network of high-speed broadband infrastructure and 5th generation networks. The implementation of the Component's proposed reforms and investments aims at the enhancement of mobile and fixed broadband connectivity and the achievement of ultra-high speed internet access for citizens and businesses, which are expected to lead to the country's digital transformation, as part of the **Digital Transformation Bible (2020-2025)** that meets the three key objectives of "**Shaping Europe's digital future**", and shall contribute significantly to Greece's economic growth and prosperity.

In the national strategic context, the component is in line with the new **National Broadband Strategy**, which is also aligned with the “**European Gigabit Society**”⁵⁷ and the “**5G Action Plan**”⁵⁸ targets, setting the following strategic objectives:

- Gigabit connectivity for all main socio-economic drivers
- All premises in organized communities (urban or rural) to have access to internet connectivity offering a download speed of at least 100Mbps, which can be readily upgradable to 1 Gbps
- 100% of the population living in organized communities (urban or rural), and all major terrestrial transport paths to have uninterrupted 5G coverage with a download speed of at least 100 Mbps, while the core highways should be capable of supporting Connected and Automated Mobility (CAM)
- 70% of households to have an internet connection (take-up) with a download speed of at least 100Mbps

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand (ID: 16857)

Reform 2. Transition to 5G technology, facilitating the development of innovative remote services (ID: 16844)

b. Investments

Investment 1. Fiber optic infrastructure in buildings (ID: 16818)

Investment 2. Submarine fibre cables (ID:16962)

Investment 3. 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks (ID: 16834)

Investment 4. Small-satellites (ID:16855)

4. Open strategic autonomy and security issues

The accelerated deployment of very high capacity networks, in particular 5G and fibre networks in urban and rural areas will generate important spill-over effects across society and the economy, providing the necessary infrastructure to handle emerging and future processes and applications. It will provide industry

⁵⁷ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society - COM(2016)587 and Staff Working Document - SWD(2016)300

⁵⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: 5G for Europe: An Action Plan - COM(2016)588 and Staff Working Document - SWD(2016)306

with new opportunities and make rural areas more attractive for businesses and young generations, whilst increasing Europe's digital strategic autonomy.

At the same time, it will contribute to job creation and upskilling directly, during the construction and operational phases in the relevant construction and civil works sectors and indirectly, supporting business growth. As a result, businesses will derive advantages from enhanced possibilities for video conferencing, cloud computing, e-commerce and financial transactions, while the functioning of certain consumer services will be greatly improved, and individuals will gain more access to information and entertainment. Moreover, the infrastructure is expected to favour the expansion of innovative online public services, including those delivered by video, while allowing for the broad implementation of many types of wireless tele-medicine and e-health services.

Through the implementation of the component's reforms and investments conditions for job creation in emerging and fast-developing technological sectors will be generated as well as improvement in the productivity of a wide range of economic sectors and, thus, an overall raise of Greece's growth potential. The initiatives will also contribute to a faster and sustainable recovery from COVID-19. Moreover, the aim is to foster a better integration of space assets with terrestrial assets for 5G, while preparing for 6G, combined with other technologies such as Artificial Intelligence (for image analysis and archiving), Internet of Things (IoT), cloud solutions (for storage and distribution of data) for the development of new services. According to a recent study by the Ministry of Digital Governance, the total impact of scheduled investments related to the development of connectivity and 5G solutions amounting to EUR 3,9 - 6,5 billion in 2021 - 2030 is expected to reach EUR 7,3 - 12,4 billion (in GVA terms) widespread across many economic sectors and create 50.000 - 70.000 new jobs.

The widest 5G and fibre coverage ensures that the digital transition is fair, promotes social inclusion and does not exacerbate recent trends of widening social and territorial inequalities. The next paradigm shift is about linking connectivity with space to provide high-speed connectivity everywhere in Europe. Integrating quantum encryption, this infrastructure would remove zones with no broadband access in Europe (the so-called dead zones) and provide connectivity everywhere, including governmental or industry-critical secured communication.

In particular, as a major enabler for future digital services, 5G will play a key role in the development of the EU digital economy and society in the years to come. As 5G services are geared to support countless connections with the potential for more entry points for attackers, ensuring the cybersecurity and resiliency of 5G networks will be of vital importance.

The cybersecurity of 5G networks is therefore essential to protect our economies and societies and to enable the full potential of the important opportunities they will bring. It is also crucial for ensuring the **strategic autonomy** of the Union.

In this context, in July 2020, EU Member States, with the support of the European Commission and ENISA, the EU Agency for Cybersecurity, published a report on the progress made in implementing the joint EU toolbox of mitigating measures on 5G Cybersecurity⁵⁹, which was agreed by the Member States and endorsed by a Commission Communication in January 2020⁶⁰. The toolbox sets out a joint approach based

⁵⁹ NIS Cooperation Group (July 2020) - Report on Member States' Progress in Implementing the EU Toolbox on 5G Cybersecurity.

⁶⁰ COM(2020) 50 final - Secure 5G deployment in the EU - Implementing the EU toolbox.

on an objective assessment of identified risks and proportionate mitigating measures to address security risks related to the rollout of 5G, the fifth-generation of mobile networks.

The objective of the EU toolbox on 5G cybersecurity is to identify a coordinated approach based on a common set of measures, aimed at mitigating the main cybersecurity risks of 5G networks that were identified in the EU coordinated risk assessment report released in October 2019⁶¹. In this report, all Member States submitted the results of their national risk assessments to the Commission and ENISA, based notably on a questionnaire. The information provided by Member States allowed the collection of information on main assets, threats and vulnerabilities⁶² related to 5G infrastructure and main risk scenarios, describing potential ways in which threat actors could exploit a certain vulnerability of an asset in order to impact government objectives.

The report on the progress made in implementing the joint EU toolbox highlights a number of important security challenges, which are likely to appear or become more prominent in 5G networks. These security challenges are mainly linked to:

- Increasing security concerns related to the availability and integrity of the networks, in addition to the confidentiality and privacy concerns;
- Key innovations in the 5G technology (which will also bring a number of specific security improvements), in particular the increased important role of software and the wide range of services and applications enabled by 5G networks; and
- The role of suppliers in building and operating 5G networks, the complexity of the interlinkages between suppliers and operators, and the degree of dependency on individual suppliers.

The toolbox aims to create a robust and objective framework of security measures to ensure an adequate level of cybersecurity of 5G networks. The approach taken is a risk-based one and solely on security grounds. The toolbox recommends a set of key actions, namely:

- Strengthen security requirements for mobile network operators.
- Ensure that each operator has an appropriate multi-vendor strategy, to avoid or limit any major dependency on a single supplier.
- Maintain a diverse and sustainable 5G supply chain in order to avoid long term dependencies.

The highest effectiveness measures identified in the Toolbox conclusions and recommended for implementation by all Member States at national level cover:

- Strengthening the role and powers of regulatory authorities (**Strategic measures 01 and 02**).
- Assessing the risk profile of suppliers; as a consequence, applying relevant restrictions for suppliers considered to be high risk - including necessary exclusions to effectively mitigate risks - for key assets defined as critical and sensitive in the EU coordinated risk assessment (e.g. core network functions, network management and orchestration functions, and access network functions) (**Strategic measures 03 and 04**).
- Ensuring that each operator has an appropriate multi-vendor strategy to avoid or limit any major dependency on a single supplier (or suppliers with a similar risk profile), ensure an adequate

⁶¹ NIS Cooperation Group (October 2019) - EU coordinated risk assessment of the cybersecurity of 5G networks.

⁶² As defined by the ISO/IEC: 27005 standard

balance of suppliers at national level and avoid dependency on suppliers considered to be high risk (**Strategic measures 05 and 06**).

- Maintaining a diverse and sustainable 5G supply chain in order to avoid long-term dependency, including by making full use of the existing EU tools and instruments. (**Strategic measures 07**). [N.B: This covers national FDI frameworks only].
- Strengthening security requirements on operators (**Technical measures 01 to 08 and 11**).

Since the Progress report was published in July 2020, Greece has made further progress in implementing the various measures of the Toolbox at a national level based on the following actions:

- As per **strategic measures**, the National Cybersecurity Authority has already indicated the necessity of proceeding to legislative measures that currently remain into internal discussions.
- As per **technical measures**, a concrete and technically neutral legal framework is already in place and monitored by the competent national authorities.

With regards to the Greek legal framework for the electronic communications sector, with emphasis on **5th generation ("5G") networks**, Part B (Articles 109-223) of the L. 4727/2020 incorporates into Greek legislation Directive (EU) 2018/1972, which establishes the European Electronic Communications Code ('EECC').

Key objectives of the L. 4727/2020 are:

- The consolidation of the EU's internal electronic communications market.
- Ensuring good quality electronic communications services at an affordable price.
- The protection of the rights of end users, and
- The effective use of radio spectrum.

The form and content of the Law follows, only with slight variations, the structure and content of the EECC.

Main provisions of L. 4727/2020 for the electronic communications sector include the following:

Expansion of Material Scope

Article 110 § A §§ 39 of L. 4727/2020 extends the scope of the law to (i) interpersonal communications services (e.g. VoIP and instant messaging services) and (ii) services, entirely or partially, relevant to signal transmissions (e.g. broadcasting services).

In order to ensure a level playing field for similar services, two levels of regulation are provided: (a) the basic level which normally applies to electronic communications services, and (b) the specialized level, which exceptionally applies to interpersonal communications services provided irrespectively of numbering resources.

- **Reform of the Radio - Spectrum Management Framework.** Articles 153 to 163 of the new Law provide common principles and objectives for the harmonisation of national radio - spectrum management policies of Member States. Furthermore, with a view to enhancing mobile broadband and **5G networks' expansion**, priority is given to the issuance of general licenses, to

common or shared use and lease of the radio spectrum in return for the granting of individual rights of use in spectral zones.

Changes to the Ex Ante Regulatory Framework

According to Articles 113 et al of Law 4727/2020, the National Telecommunications and Postal Commission ('EETT') is designated as National Regulatory Authority. Besides, Articles 167 to 191 of the Law confer to EETT a set of ex ante powers to regulate the electronic communications market for the purpose of strengthening competition.

Innovations in the ex ante regulatory framework include the enactment of obligations of access to technical works, the provision of commitments on very high capacity network components and the regulation of wholesale termination rates and retail services. Nevertheless, EETT should exercise these powers in such a way as to ensure economic efficiency, sustainable competition, the development of very high capacity networks, efficient investments and innovation and, ultimately, to provide maximum benefit to end users.

Finally, the market analysis process is carried out every five (5) years, instead of the three-year market analysis cycles of the previous regime.

Universal Service Extension

Articles 192 to 200 of L. 4727/2020 extend the universal service not only to voice telephony services, ad minimis at a fixed location, but also to an adequate broadband service at an affordable price.

- **Security.** With the aim of effectively managing contemporary risks to the security of electronic communications networks and services, articles 148 and 149 of the Law provide specific obligations for providers to implement appropriate and proportionate technical and organisational security measures. The Hellenic Authority for Communications Security and Privacy ("ADAE") is designated as the competent authority for the supervision of information security in electronic communications, the reporting of any security incidents and the adoption of relevant regulations.

Facilitation of Investments in Electronic Communications Networks

The Law 4727/2020 lays down statutory provisions that facilitate the installation, operation and management of electronic communications networks, including, among others, the following cases:

- Article 151 of the Law specifies and simplifies the process of granting rights of way.
- Article 152 of the Law improves the framework for the co-location and sharing of network components and related facilities.
- Article 164 of the Law establishes the framework regarding the radio local area networks.
- Article 165 of the Law sets out the process of developing and operating small-area wireless access points, which are of key importance for **5G or future generations of mobile communications network technology**.

End User Rights

Articles 206 to 223 of the Law provide electronic communications services and applications end users with a set of enhanced rights, including, inter alia:

- Protection of fundamental rights and the right of end users to be heard when Member-States take measures to restrict such rights.
- Minimum content information in contracts for the provision of electronic communications services and applications with end users.
- Obligations of providers to ensure transparency, by comparing offers, and publishing information to end users.
- An adequate level of quality with regard to internet access services and interpersonal communications services.
- Protective provisions concerning the duration and termination of relevant contracts with end users.
- The right to switch to another provider and number portability.
- Access to emergency services and public warning system.
- Equal access and options for end users with disabilities.
- Supervision and Coordination Articles 111 and 113 of the Law set out rules regarding the explicit regulatory objectives and enhanced supervisory powers of the National Regulatory Authority.

Articles 112 and 136 of the Law include provisions regarding the coordination between the Ministry of Digital Governance and EETT with corresponding authorities of other EU Member States and the European Commission in order to harmonise the use of radio spectrum across the EU.

Article 135 establishes a cross-border dispute settlement procedure under the supervision and assent of BEREC.

Articles 140 to 141 of the Law establish a procedure for prior notification and consultation with the European Commission and BEREC of decisions taken by EETT in the context of ex-ante market analysis and regulation.

Since the markets under examination are potentially transnational, the relevant analysis shall be carried out within the framework of Articles 173 to 174 of the Law with the assistance of BEREC.

Development of 5th Generation Networks (5G)

Finally, articles 92 to 98 of L. 4727/2020 establish a special legal framework for the development of an ecosystem of 5G networks and services in Greece. The innovative provisions of the Law related to the promotion of 5G network infrastructures and applications are based on the following pillars:

- **5G Investments S.A.** A public limited company is established under the name "5G Investments S.A." as a subsidiary of "Hellenic Holdings and Property Company S.A." (EESP S.A.), for the sole purpose of managing the "Phaistos Fund" and approving and financing of investment proposals in relation to 5G services and applications.
- **Phaistos Fund.** The Phaistos Fund is a Mutual Fund of Business Holdings of Article 7 of Law 2992/2002, financed by the 25% of the Government's revenue from tenders for granting 5G networks radio frequency rights of use. Private and professional investors may also participate in the assets of the "Phaistos Fund", and thus increase its resources. Through the Phaistos Fund,

"Participations 5G S.A." may invest in flexible ways in research and/or development enterprises of products and/or services operating in 5G infrastructures (or related to them) in Greece, but not limited to the following sectors: transportations/logistics, manufacturing, industry, including, inter alia, defense, goods and networks of general interest, health, tourism, information and media.

- **Radio-spectrum for Pilot Applications.** The Greek State shall reserve the radio frequency band 3400-3410 MHz for ten (10) years for the sole purpose of research and/or development and/or innovation in networks, products and/or services operating on 5G infrastructures by public entities, and may bind an additional 200 MHz from the 26 GHz frequency band for a period of ten (10) years for the same purposes. In addition to the Public Entities' direct use, rights of use in the above mentioned radio-spectrum will be granted up to twelve (12) months without charge to Greek Universities and/or research centers.

5. Cross border and multi-country projects

- Transition to 5G technology, facilitating the development of innovative remote services (Cross border project - connection with Sofia, Bulgaria - Multi-country project “5G Corridors”) (ID: 16844)
- Submarine fibre cables (ID: 16962) (Cross border project - connection with Cyprus)
- 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Network (Cross border project - connection with Sofia, Bulgaria - Multi-country project “5G Corridors”)
- Small-satellites (ID: 16855) (Multi-country project - (EuroQCI), Greece has secured the development of the first in Europe Optical Ground Station (OGS) for communications in the Observatory of Helmos in cooperation with the European Space Agency (ESA)).

6. Green dimensions of the component

The European Green Deal enshrines the objective that all EU countries must be 100% climate neutral by 2050 and reach a 50% target by 2030. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

By increasing coverage and take-up of very high capacity digital infrastructure, the measures put forward in this component will boost the development of digital solutions that support the decarbonisation of all sectors and reduce their environmental footprint. 5G based solutions and small-satellites are expected to bring about important efficiency gains in sectors such as manufacturing and logistics. Comparative analysis of the energy consumption in broadband networks has shown that optical fibre networks are the most energy-efficient solution, taking also into account the increasing traffic of data volumes ahead.

Moreover, with the implementation of 5G Corridors into major Greek highways serving Connected and Automated Mobility (CAM), new technologies and digital solutions to all modes of transport shall be introduced (e.g. smart driving), effectively improving road transport in time, costs and CO₂ emissions thus reducing the environmental footprint of transport.

The expansion of fiber optics infrastructure shall also result in reduced operational costs and an improved business case for operators investing in fibre, improved quality of service for customers and wider benefits to the environment and society, including reduced CO₂ emissions in relation to the data consumed.

Overall, the proposed reforms and investments will contribute to climate change mitigation by promoting energy transition and capital flows towards infrastructure with decreased energy requirements and improved carbon footprint.

7. Digital dimensions of the component

The Regulation COM(2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The Digital Transformation Bible (2020 - 2025), including the new National Broadband Strategy that is in line with the 2025 objectives of the "European Gigabit Society", shall contribute to ensure the coherence and reinforce the synergies between reforms and investments of the present Component in different areas of the digital economy. Where digital connectivity investments are structured into pools of coherent reforms or "programmes", anchored into wider local, regional and national digital transition plans, their contribution to the digital transition is significant.

Investment in very-high-capacity digital infrastructure is a key prerequisite for the digital transition and will improve competitiveness as well as resilience, agility and security of companies and public actors, while ensuring inclusiveness. In this context, the reforms and investments entailed under the present component will contribute to the accelerated deployment of ultra-fast broadband connections and 5G networks as well as the construction of a small-satellite system, empowering people and businesses with better, faster and more widespread internet coverage and advanced digital services. Citizens will have access to more efficient digital services, consumers will enjoy more choices and available information, and businesses will explore new opportunities through innovative business models, remote collaborations and digital tools. Also, they will provide industry with new opportunities, make rural areas more attractive for businesses and young generations, whilst increasing Greece's digital strategic autonomy.

The Component's reforms and investments are going to have important spillover effects (a) across society and the economy, by ensuring the switch to ultra-fast broadband connections and transition to 5G technology to handle emerging and future processes and applications, and contribute directly to growth and employment, as part of Greece's economic recovery, and (b) the competitiveness of the whole digital sector (supply of IT equipment, cloud technologies and solutions, data analytics, AI, high performance computing, etc.), across all sectors of the economy such as health, transport, education, agriculture, smart mobility and also for public administration.

By comprising 100% digital expenditures (see Table below - Paragraph 8) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 20% of the total expenditure of the recovery and resilience plan to be related to digital. As outlined in Next Generation EU, the fast deployment of very high capacity networks, including 5G and fiber, will have positive spillovers on the entire society and the national economy.

Title of reform or investment	Digital (%)	Climate (%)
Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband demand (ID: 16857)	100%	0%
Transition to 5G technology, facilitating the development of innovative remote services (ID: 16844)	100%	0%
Fiber optic infrastructure in buildings (ID: 16818)	100%	0%
Submarine fibre cables (ID: 16962)	100%	0%
5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks (ID 16834)	100%	0%
Small-satellites (ID: 16855)	100%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two-step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the 'Connect' component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment, as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation are presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is calculated in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical and statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units).
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculation methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investments and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones.

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan.

1st step – Development of Cost Analysis Reports

The content of the cost analysis report for each investment and reform included in the recovery and resilience plan comprises the following common parameters / details:

- **Project snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope.
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides a general outlook in regards to the maturity process and includes a cumulative featuring the project's timeline including the milestones to be reached.
- **Project budget:** Provides:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before the 1st of February 2020),

- indication of whether parts of the project's budget are covered by other private parties or EU financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
- budget valuation and validation (clear methodology for cost estimation, cost analysis per critical cost driver, identification of unit costs, total unit number definition, total required budget estimation per project)
- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources).

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that were carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and the in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses have been developed and used based on their suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and unit value cost estimation
- Definition of the total number of units required and application of the unit value to the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following elements:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

4th step – Cost valuation and validation process

The accuracy and validation of the cost analysis for each investment and project is achieved through the execution of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and proper valuation of the cost analysis has been ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with responsible stakeholders and entities
- Request of required or additional data and information
- Investment size verification and cost identification
- Preparation and review of cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed and the estimation of the relative costs regarding the investments and reforms included in the first component (“Connect”) of the second pillar of the recovery and resilience plan (“Digital”) are based on three main elements:

- The supply and purchase of the required IT equipment and licenses,
- The development of IT systems and software and
- The technical consulting, management and training services needed for the development and operation of the relevant digital systems and software.

1st element: Purchase of required equipment and licenses

In the first element the relative cost estimates concern the purchase of the IT equipment and licenses required in each investment and reform included in the digital pillar. In this context, the estimation and the justification of the investments’ and reforms’ cost included in this element is based on specific parameters and actions which refer to the:

- Identification of the required equipment and licenses needed to be purchased
- Determination of the total amount of equipment or licenses required for the implementation of the reform / investment
- Estimation of the relative cost per unit (e.g. in items for equipment or in years for the licenses) based on the examination of all available information on the relative cost of similar reforms and investments, taking current market rates into consideration.

2nd element: Development of IT systems and software

This element includes the estimated cost of all the required actions concerning: a. the requirement analysis and solution design, b. the installation, deployment and customization of IT systems and software, c. the implementation and integration services and d. the pilot operation services. In particular, the costing of all the actions required for the development of the IT systems and software is conducted considering the following cost parameters:

- Identification of the relevant expertise as well as the number of personnel needed for the development of the IT systems and software
- Definition of the amount of work needed for the completion of each action, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)

- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel.

3rd element: Technical consulting, management and training services

The cost as regards the third element refers to the provision of the complementary services required for the development of IT systems / software which are related to the technical consultation, the management as well as the training services required for the operation of the systems. In this field, the calculation of the relative cost of these services is based on the following parameters:

- Identification of the need of such services per project (e.g. need of a technical study or implementation of specific training program) and determination of the number of the relative personnel needed for each one of them
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs for technical consulting, management and training services per project.

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 2.2: Modernise

1. Description of the component

Policy area/domain: Digitise the State

Summary: Greece has a pre-existing strategic choice in digital governance enhancement (*'Digital Bible'*), which has been further intensified and widened because of the COVID-19 pandemic. Especially during the last 12 months, the results of this strategy are significant and depicted in the increase of the provided digital services. However, the country should further improve the efficiency and effectiveness of its Public Administration. Also, the country needs further advancement of its digital performance.

The overall aim of this component is to modernise the Greek Public Sector by improving its operational model, and achieving the provision of enhanced, qualitative services to citizens and businesses. In addition, important trans-European initiatives, such as "Smart Cities", included in the present component bring to the fore global challenges related to the digital and green transition. As populations in large cities continue to grow, the demand for improved services, and especially the pressure to better manage available resources, will continue to grow. The acceleration of efforts to improve the country's digital performance will be catalytic both for citizens and businesses, as well as for meeting current challenges towards the further modernization of the country.

Reforms and investments aim at: (a) the digital transformation of Public Sector's organisations and the enhancement of their digital services, (b) business process improvements followed by the incorporation of contemporary information systems, (c) increased interoperability of systems and data, (d) wide-spread cybersecurity strategies and policies, as well as (e) extended use of advanced technologies such as cloud computing and big data.

Objective: Taking into consideration current challenges and recommendations, Greece aims to modernise its Public Sector through the incorporation of new technologies in order to increasing its efficiency and effectiveness, accomplish the provision of improved, qualitative services to citizens and businesses, as well as improve the performance of civil servants with the utilization of new tools and digital technologies and infrastructure. Acceleration of the efforts to improve its Digital Performance will be catalytic to the accomplishment of these objectives.

The following axes show the main direction of this component: (a) Digital transformation of Public Administration and provision of enhanced public services to citizens and businesses, with a view to simplifying and improving procedures and systems as well as achieving compliance with European strategies and policies, (b) Incorporation of new technologies and advanced trends in Public Administration in order to increase its efficiency and effectiveness, reduce operating costs as well as upgrade and maintain information systems, (c) Interconnection and interoperability of registers, systems and services for data exchange between national public organisations, (d) Establishment of the national cybersecurity strategy and policies in conjunction with the development of a National Security Operations Center (SOC), and (e) Data governance strategy and policies for the public sector.

Link with European Pillar: 'Digital transformation', 'Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning single market with strong SMEs', 'Green transition'

Link to the European Flagships: 'Modernise', 'Reskill and upskill'

Reforms and investments

Reforms

- **Reform 1.** Interconnection and interoperability of registries, systems and services for data exchange between national public organisations (ID: 16782)
- **Reform 2.** Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies (ID: 16929)
- **Reform 3.** Incorporation of new technologies and trends towards Public Administration's advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs (ID: 16928)
- **Reform 4.** Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures (ID: 16823, COFOG: 01.6)
- **Reform 5.** Data Governance strategy & policies for the Public Sector (ID: 16827, COFOG:01.6)

Investments

- **Investment 1.** Interoperability and web services development (ID: 16779, COFOG: 01.6)
- **Investment 2.** Next-Generation Interoperability Centre (KED) (ID: 16964, COFOG: 01.6)
- **Investment 3.** eRegistries (ID: 16824, COFOG: 01.6)
- **Investment 4.** Tourism Registry e-MHTE (ID: 16785, COFOG: 08.5)
- **Investment 5.** CRM for the General Government (ID: 16810, COFOG: 01.6)
- **Investment 6.** New system for Public Procurements (ID: 16736, COFOG: 01.3)
- **Investment 7.** Digitisation of archives and related services (ID: 16778, COFOG: 01.6)
- **Investment 8.** Central Document Management System (ID: 16738, COFOG: 01.3)
- **Investment 9.** Further modernisation of Public Administration's One-Stop Shops (ID: 16780, COFOG: 01.1)
- **Investment 10.** Digitalisation of the Ministry of Foreign Affairs (ID: 16742, COFOG: 02.4)
- **Investment 11.** Digital Transformation of the Greek National Tourism Organization (ID: 16791, COFOG: 08.5)
- **Investment 12.** Digital skills upgrade programs for conscripts (ID: 16826, COFOG: 09.5)
- **Investment 13.** Central BI – Data Analytics (ID: 16842, COFOG: 01.3)
- **Investment 14.** Enhancement of Public Sector's Business Continuity (ID: 16287, COFOG: 01.6)
- **Investment 15.** Supply of Central Cloud Computing Infrastructure and Services (ID: 16853, COFOG: 01.6)
- **Investment 16.** Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET) (ID: 16955, COFOG: 01.6)
- **Investment 17.** Smart cities (ID: 16854, COFOG: 01.6)
- **Investment 18.** Expansion of Syzefksis II (ID: 16956, COFOG: 01.6)
- **Investment 19.** Data Classification Studies for Public Sector's Information Systems (ID: 16965, COFOG: 01.6)

Estimated cost: EUR 1,281 million, of which EUR 1,281 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

The Greek economic crisis of the last decade, followed by the covid-19 pandemic, brought to surface multiple structural problems of the Greek economy, as well as inefficiencies in the operational model of its Public Administration and the Greek Public Sector in general. It should be noted that both crises add to a number of pre-existing weaknesses of the Greek economy's growth model and the Greek Public Sector's operation, therefore a series of critical challenges need to be addressed.

This component's content comes to address challenges related to the improvement of Public Administration's operation, at least as concerns its efficiency and effectiveness. Modernisation of the Public Administration's operational model and provision of enhanced services to citizens and businesses, through Digital Transformation and incorporation of new technologies, are at the center of the challenges' bouquet.

A challenge repeatedly recalled in the Greek Country Specific Recommendations (2019/2, 2020/3) and related recitals, refers to *"accelerating efforts to improve the country's digital performance through the deployment of digital tools and services in the public administration"*; see Council Recommendation, 20 July 2020 (2020/C 282/08). According to the Country Report 2020, Greece has one of the least advanced digital economies in the EU. More specifically, according to the Digital Economy and Society Index (DESI) 2020, which captures performance in the areas of 'Connectivity', 'Human capital', 'Use of internet services', 'Integration of digital technology' and 'Digital public services', Greece ranks 27th out of the 28 EU Member States in the overall DESI 2020. The same ranking applies to the area

of ‘Digital public services’. The supply of online public services remains relatively limited, as reflected in the rather low availability of pre-filled forms, the low share of e-government users, and the low provision of digital public services for businesses.

As noted in the afore-mentioned Report, public administration inefficiencies, including a limited provision of digital public services, continue to be obstacles for citizens, public bodies and businesses. A catalytic advantage of digital services is that they have untapped potential. Large transaction costs for analogue services generate high administrative burdens for citizens and businesses. The percentage of digital services provided by the Greek Public Administration and the share of the population actually using them should be further increased. This is partially due to insufficient user-centric service design, with most applications designed for the use on desktop computers rather than mobile devices, but also due to the use of old-fashioned technical architectures making the incorporation of new technologies very difficult.

On the other hand, it should also be pointed out that Greece has accomplished some considerable steps to the direction of its Public Administration’s modernisation through digitalisation over the past 12 months. At the legal and regulatory levels, law 4727 (September 2020) for Digital Governance incorporates into Greek legislation the EU Directives 2016/2102 and 2019/1024. Also, at the implementation level, initiatives concerning e-id have already been initiated. In addition, covid-19 pandemic has been an additional catalyst for further expanding digital services provided through ‘gov.gr’ to citizens and businesses; an increase of more than 40% in provision of digital services through this central government portal has taken place during the last 12 months. As concerns the country’s initiatives (under execution or proposed) on cloud computing infrastructures, the estimation is that Greece will soon be above average in using cloud services, either at the level of Public Sector or the penetration to the SMEs. Overall, Greece has a preexisting strategic choice in digital governance enhancement, which has been further intensified and widened because of COVID-19. This strategy’s materialisation is already under execution, while this component’s reforms and investments will further support achievements in the Public Sector’s improvement of efficiency and effectiveness, and provision of advanced digital services.

Additionally, as concerns the limited use of new technologies aiming to the provision of enhanced digital services, it should be noted that many of the existing Public Administration’s web portals and centralised platforms are not state of the art, while mobile applications and social media are insufficiently used for enhancing citizen trust, possible participation in policy making and reduction of bureaucratic overheads. The Greek Public Administration has not yet seized the benefits of modern technologies and tools such as data analytics and AI, which can produce findings that will allow design and implementation of enhanced services, but also support the Administration in understanding where policies do not reach their intended objectives and proceed with corrective actions. It should be pointed out that data available from public and private sources are insufficiently accessed and processed, being at the same time an unexploited ‘treasure’ for the Greek Public Administration.

Also, in relation to data use and data-related policies, citizens are generally unaware of their personal data held by the Greek Public Administration and have difficulty to submit corrections, check and inquire about their usage purposes. In an environment, where individuals will generate ever increasing amounts of data, the way in which the data are collected and used must place the interests of the individual first, in accordance with European values, fundamental rights and rules. Citizens will trust and embrace data-driven innovations, only if they are confident that any personal data sharing will be subject to full compliance with the national and EU strict data protection rules. Citizens should be empowered to make better decisions based on insights extracted from non personal data. And that data should be available to all – whether public or private, big or small, start-up or giant. This will help society to get the most out of innovation and competition and ensure that everyone benefits from a digital dividend. The development

of data governance and cybersecurity strategy, policies and systems forms an important challenge in this modernisation initiative of the Public Administration.

The interoperability of systems and data is another important challenge addressed in this component. Interconnection of systems remains weak and data held in different areas of the Greek Public Sector's systems is partially hampered by legal obstacles, organisational differences, inconsistencies and technical disparities. As a result, data are often collected multiple times or remain unused because of high costs in obtaining or processing them.

Another, related, challenge to be addressed concerns the development of necessary infrastructure, which will form the basis for the 'materialisation' of the Greek public sector's digitalisation. Cloud computing services and existing/proposed data centers should be blended and effectively support smooth operation of the information systems and incorporation of new technologies such as AI and big data.

Challenges related to the extended use of digital technologies bring to surface the need for new digital skills needs. Public Administration's staff lack necessary skills to use and administer many key areas of the digital transformation, including use of applications, data processing and governance, security, etc. There is a pressing need to equip staff with the necessary basic and advanced digital skills and to update these skills continuously. At the same time, it should be pointed out that digital upskilling initiatives are viewed holistically, as an umbrella plan, aiming to enhance digital skills at all levels and categories of citizens and businesses. Digital transformation will not be successful unless the majority of citizens and businesses effectively use the available services; digital upskilling is a prerequisite towards this achievement. Towards this direction, Citizens Digital Academy's services will be further expanded.

In this context, digital upskilling challenges are going to be addressed in a mutually reinforcing manner with other components, in particular component 3.2, which further seeks to address the lack of IT and digital skills, in the perspective of life-long learning through the implementation of horizontal upskilling programmes to targeted populations, which are expected to contribute to the digital transformation of the working population, empower citizens to take advantage of digital services and participate fully in the modern public sector services, acting as an enabler towards the equal participation in society and integration into professional life as well as ensuring social cohesion.

Additionally, the proposed "Smart Cities" initiative brings to the fore another national, European, but also global challenge, related to digital but also green transition. As populations in big cities continuously grow, the demand for enhanced services, and most importantly pressure on resources, will continue increasing. This demand puts pressure on energy, water, waste, mobility and any other service that would be essential to a city's prosperity and sustainability. To this context, digital technologies face a new challenge: to be the catalyst for the gradual transformation of cities to "smart cities".

With reference to the initiatives of key registries' development, it should be pointed out that according to the Enhanced Surveillance Report addressed to Greece in May 2020, it is recommended *"to implement the National Program for Procedures Simplification in key policy areas and promote the interoperability of registries, data and IT systems to ease the administrative burden for businesses and citizens by the end of 2021"*. In this context, the development of key registries is challenging and crucial for the expansion of e-government in Greece.

b. Objectives

The overall aim of this component is to modernise the Greek Public Sector by increasing its efficiency and effectiveness, and achieving provision of enhanced, qualitative services to citizens and businesses. Acceleration of efforts to improve the country's Digital Performance will be catalytic to the achievement

of this aim. Current challenges, needs, and expectations of both citizens and businesses have been taken into account and have led to this strategic direction.

All reforms and investments of this component aim at addressing the recommendations 2019/2 and 2020/3 and related recitals; see paragraph no. 25 of the Council Recommendation, 20 July 2020 (2020/C 282/08), focusing on Public Administration's quality and effectiveness enhancements and further digitalisation of public services.

The component is in line with the Greek Country Specific Recommendations (CSRs) for the years 2019 and 2020, which recommend improving the quality and effectiveness of Public Administration and digitalisation of public services. The Council Recommendation, 20 July 2020 (2020/C 282/08), states that *"acceleration of efforts to improve the country's digital performance, through the deployment of digital tools and services in the public administration"* is important and therefore recommended, without leaving out of scope the need for interoperability of systems, incorporation of new technologies, digital upskilling and equal access to e-services.

The proposed reforms and investments pursue the following core objectives:

- Significant increase of the Greek Public Sector's efficiency and effectiveness (through digitalisation initiatives)
- Sharp increase of the number of digital services provided to citizens and businesses, replacing old-fashioned, manual, costly-bureaucratic services
- Full incorporation of new technologies such as big data and AI
- Development of the proper blend of IT infrastructure, combining existing systems and platforms with cloud computing
- Radical enhancement of interoperability between IT systems and data exchange
- Establishment of cohesive data governance policies and systems
- Development of policies and systems for public sector's business continuity and cybersecurity
- Increase of digital solutions to support the Green transition
- Increase of digital services for key sectors for Greece, related to the country's financial and social challenges.

European flagships: The proposed reforms and investments under this component certainly focus on the modernisation of the Greek Public Administration and the provision of interoperable, personalised and user-friendly digital public services. In other words, these initiatives champion the European Flagship 'Modernise'. The envisaged measures will provide citizens and businesses with an umbrella of enhanced digital services, facilitating efficiency and a major increase of productivity. Furthermore, this component promotes objectives that are common for the digitalisation of Public Administration but also for the digital services of key sectors of economy. The component also echoes the European Flagship 'Reskill and upskill', by providing skills and new competences for conscripts to help them develop the digital skills needed for the effective use of technology integrated into armed forces, and to enhance their digital capabilities to enter the labor market, after the end of their military service.

Economic & Social Cohesion: Effective and enhanced digital services, achieved through digitalisation and operations improvement, ensure equal access and same quality of service for all citizens and businesses, including older persons, marginalised communities, or persons with disabilities and replacing old-fashioned, ineffective, possibly unfair, 'manually provided' services. This component clearly focuses on this specific aim of enhanced digital services provision, covering the Greek Public Administration in general and key sectors of economy, therefore fully supports cohesion and mitigates disparities.

Link to the Council Recommendation, 20 July 2020: The reforms and investments of this component are directly linked to the main recommendation (paragraph no. 25) of the Council Recommendation, 20 July 2020 (2020/C 282/08). More specifically: *“Despite some progress made in the previous years, Greece needs to accelerate its efforts to improve its digital performance, including through the deployment of digital tools and services in the public administration, the justice system and businesses. A strategic approach to accelerating the use of digital technologies across all economic sectors, including in the public administration, and the interoperability of various information systems. Digital upskilling will allow everyone in Greece to enjoy equal access to e-service. People from disadvantaged backgrounds, including refugees and asylum seekers, and those living in remote and rural areas should receive particular attention”*.

Link to objectives of the “Shaping Europe’s digital future”, “European Data Strategy” & “European Green Deal”: The afore-mentioned reforms and investments fully comply with *“the need for Europe to lead the transition to a healthy planet and a new digital world... It requires that every citizen, every employee, every business person has a fair chance, wherever they live, to reap the benefits of our increasingly digitised society”* (see “Communication: Shaping Europe’s digital future”, Introduction). The proposed reforms and investments meet the three key objectives of “Shaping Europe’s digital future”. More specifically:

- Technology that works for people; initiatives on Key Actions: ‘Artificial Intelligence’, ‘Cybersecurity’, ‘Skills Agenda’ and ‘EU governments interoperability strategy’,
- A fair and competitive economy; initiatives on Key Actions: ‘European Data Strategy’, ‘A framework to enable convenient, competitive and secure Digital Finance’, and
- An open, democratic and sustainable society.

Additionally, the component’s reforms and investments are inline with the European Data Strategy’s (European Strategy for data, COM (2020) 66 final) vision to create a single European data space – a genuine single market for data, open to data from across the world – where personal as well as non-personal data, including sensitive business data, are secure and businesses also have easy access to an almost infinite amount of high-quality industrial data, boosting growth and creating value, while minimising the human carbon and environmental footprint.

Finally, the proposed initiatives are coherent with the priorities of the European Green Deal, aiming to implement digital actions in full respect of the climate, environmental and social priorities of the Union.

c. National strategic context

The majority of this component’s initiatives are included in, or related to, the Digital Transformation Bible of Greece (2020-2025), which fully meets the three key objectives of “Shaping Europe’s digital future”; an overview of the ‘Bible’ is included in the following subparagraph. Additionally, this component’s reforms and investments fully comply with the Greek Public and Private Sectors’ “digitalisation” and “modernisation” challenges, objectives and recommendations listed in the “Growth Plan for the Greek Economy” (“Pissarides’ Committee report”), Interim Report July 2020. More specifically, in par. 2.2 of the Report, where global trends and challenges are analysed, the importance of digital technologies for the economic growth and the new jobs creation is pointed out, and accompanied by many references to the positive effects that will be created by the provision of increased public digital services to the citizens and businesses. It should be noted that the Report includes references to “modernisation” and “digital services” challenges for Greece mentioned in reports such as the “International Civil Service Effectiveness (InCiSE) Index, Results Report 2019”. The initiatives of this component certainly meet these challenges, too.

The Digital Transformation Bible of Greece (2020-2025)

Greece has always been a country that suffered from significant levels of administrative burdens arising from bureaucratic obstacles generated either by a poor legal framework or by obsolete administrative procedures. A working document from the European Commission in 2006⁶³, showed that Greece had the highest administrative burdens in EU-27, as a percentage of its GDP that reached almost 7%.

These obstacles have a profound, negative effect both on the conduction of economic activity as well as on citizens' perception regarding the quality of governance. Although several Greek Governments have implemented policies regarding the reduction of bureaucracy, there has never been a concrete national policy aimed at improving the administration's ability to deliver public policies and services. A reasonable conclusion that can be drawn from the previous analysis is that no significant difference will be in terms of the bureaucratic obstacles faced both by businesses and citizens.

The Greek Government that came into power in July 2019 acknowledged the problem and tried to address it by creating the new Ministry of Digital Governance and by placing a Minister of State (i.e. a Minister to the Prime Minister) as the coordinator of its bureaucracy reduction strategy. The statutory mission of the Ministry is to gather all policies related to the modernization of the state in terms of its functions and operations in a horizontal way. Thus, the Ministry aims at the holistic planning and implementation of (a) the digitization policy and (b) the simplification policy of the state.

More specifically, for the first time, the Ministry of Digital Governance has horizontal statutory competence for all digital issues across all Ministries as compared to the old model that had three main ministerial actors (Ministry of Digital Policy, Ministry of Administrative Reorganization and Ministry of Finance) and a series of entities under the competence of other ministries (IDIKA SA for the digitalization of health and social security under the Ministry of Health and the Ministry of Labor or EDYTE SA under the Ministry of Education).

The Ministry of Digital Governance brings together all the critical IT and telecommunications structures related to the provision of electronic services to citizens and the wider digital transformation of the country. More specifically, one of the Ministry's activities towards full digitalisation of services, is the simplification and improvement of related processes, removing them from bureaucratic overheads. Until now, digital politics, e-government and citizen service have been placed under different organizational units.

At the same time, the critical state information systems have been dismantled, resulting in parallel or even contradictory planning, overlapping projects and general waste of public money, whereas the current unified structure at operational level solves the fragmentation of units and systems affected by the quality and the cost of services provided. Certainly, the above scheme needs continuous and uninterrupted cooperation between Ministries and public agencies to pursue the ultimate purpose of the Ministry of Digital Governance to achieve interoperability at all levels.

As already mentioned, all activities fall under the general policy of the modernization of the State. This policy is twofold and includes:

- a) Reducing bureaucracy and modernizing the State's functions by simplifying and digitizing critical procedures, as well as creating the appropriate legal, normative and technological framework for the policy to become concrete.

⁶³ COM(2006) 691 final - 'Measuring administrative costs and reducing administrative burdens in the European Union'

- b) Strengthening the critical infrastructure of the state by institutionalizing and implementing a cloud first policy, a new cybersecurity policy as well as upgrading connectivity in the public sector.

Both elements are critical if the Greek State wishes to evolve into the next generation and implement structural reforms that will reduce fiscal burdens, boost growth and improve citizens' perception regarding quality of services. With regards to the first pillar of the state's modernization it should be noted that all actions fall within an ambitious plan to improve its functions and also to create the necessary tools to make this policy sustainable and viable for the next years. Thus, the reduction of bureaucracy is based upon a National Policy for Procedures, that has three pillars, as depicted below.



The policy is based on 3 pillars:

(a) creation of a register for all processes (Diavlos) to organize and standardize all processes and become the single point of truth for processes. The Registry is being created by EDYTE SA and the network of employees from line ministries are already active in filling in the procedures in the platform. The Diavlos Registry will record the 'as is' situation and it has already been institutionalized by art. 90 of Law 4727/2020. [Ministerial decision 32066/19.11.2020 (National Gazette 5123)].

(b) the National Simplification Program (NSP), which aims at reducing bureaucracy and simplify procedures thus feeding the registry with the new procedures. The NSP has been institutionalized with art 45 of Law 4635/2019 (Ministerial decision 15660 6.07.2020 Gazette B4727) and includes all digitalization and simplification efforts of the Ministry. One aim is to include all simplification and digitalization efforts by the Government thus creating a concrete policy umbrella for the reduction of administrative burdens. The NSP is currently being coordinated by a designated team of 5 secretary generals with competences on the simplification policy of the government (GS Digital governance, GS coordination, GS legal affairs, GS of industry, GS of fiscal policy).

(c) an observatory to assess and measure the impact of all simplification policies on the National Simplification Program. The Observatory will show the quantified reduction of administrative burdens and will issue reports on the policy implementation of all digitalization and simplification efforts of the Government. It has been institutionalized by art 47 of Law 4635/2019. Currently, the OECD is working with the Greek Government to launch it.

Additionally, one of the main objectives of digital strategy includes Greece as a source of competitive advantage at the business and national economies levels. The performance of the digital economy is a matter of national strategies for achieving economic growth and socio-economic development and the growth of Greece will be reflected in the Digital Economy and Society Index (DESI index), which measures areas related to Connectivity, Use of Internet Services, Integration of Digital Technology and Digital Public Services. As such, through the implementation of the proposed initiatives and investments the country aims to increase current scores and rankings as well as enhance trust between public services and citizens.

For example, interoperability and modernization of information systems

throughout Greece's public sector and the digital transformation of the public services will give people the opportunity to use all eGovernment services from a single access point and proceed with a big step forward.

Moreover, Art. 5 of Law 4727/2020 (Law on Digital Governance and Electronic Communications), which was officially approved in September 2020, stipulates that the National Digital Strategy is included in the Digital Transformation Bible that has a five-year perspective and can be updated on an annual rolling basis, taking into account technological or other developments that demonstrate a fast and dynamic pace. The annual update is part of the general business plan of the government, as enshrined in law 4622/2019 on the Executive State. The Bible is binding for all general government entities and includes the general principles, the framework, the guidelines as well as the strategic axes and the horizontal and vertical interventions that will lead to the digital transformation of the Greek society and economy.

Through collaborations with major stakeholders from the public and private sector as well as with the research and academic community and the civil society, the "bible" describes the objectives as well as the implementation measures of the digital transformation strategy. It should be noted that the formulation of the Action Plan of the strategy is an open and dynamic process, as new actions will be added when needed.

The coronavirus pandemic in Greece acted as an accelerator for the digital transformation of the country as several services got digitized quickly and efficiently. Greece, as soon as the first lockdown was imposed last spring, launched an online platform offering services such as medical prescriptions, residence certificates, recognition of university degrees, etc. At the same time, ministerial cabinet meetings were held through online meeting platforms, while distance learning and teleworking were expanded among the student and working communities. During the second lockdown in last November, Greece made an impressive progress in distance learning as all classes, from nursery schools to universities, were held online without interruptions or obstacles.

In this context, the new Digital Transformation Bible (2020 - 2025) sets seven objectives as follows:

1. Safe, fast, and reliable access to the Internet for all

The aim is to ensure a favourable regulatory and legislative framework and upgraded fixed network infrastructure for the development of 5th generation (5G) infrastructures. Through the new national cyber security strategy information systems, digital services and infrastructures will be inspected following the proper security procedures. Digital services and websites will be redesigned according to the principle of universal design in order to enable them to be accessible to all population groups.

2. A digital state offering better digital services to the citizens for all life events

The aim is to meet citizens' needs through the simplification of digital services and the provision of digital solutions. The National Portal for the provision of Digital Services (gov.gr) has already been created and the aim is to serve as a central single gateway and point of reference regarding information and the digital services of the Public Administration. The interconnection and interoperability among the basic Registries are also described in the "bible".

3. Development of digital skills for all citizens

The aim is to enhance innovation and digital technologies learning programs at all education levels, from the secondary level to universities, in order to improve students' digital skills, while the creation of a

Digital Academy for citizens will ensure that people of all ages will be able to acquire the needed skills through live or online programs whenever needed.

4. Facilitate the digital transformation of businesses

The aim is to help all Greek enterprises in their digital transformation through training programs, the creation of a central digital invoices system and the support of electronic commerce solutions in order to also enhance the export orientation of enterprises.

5. Support and strengthening of digital innovation

The aim is to ensure the development of start-up companies, especially those active in the field of Information Communication Technology (ICT), while supporting the creation of new innovation ecosystems through the support of Digital Innovation Hubs.

6. Making productive use of public administration data

The aim is to make full use of public data through the creation of a single data governance model at a national level with respect for the protection of personal data. The open availability and maximum use of public data will contribute to the development of new products, business models and markets and act as a key factor to the digital transformation of the country.

7. Incorporating digital technologies to all economic sectors

Adopting digital tools in various sectors such as telemedicine, distance learning, remote hearings at courts, teleworking in the public sector, network of sensors to collect data for the environment etc.

	Safe, fast, and reliable access to the Internet for all
	A digital state offering better digital services to the citizens for all life events
	Development of digital skills for all citizens
	Facilitate the transformation to digital enterprise
	Support and strengthening of digital innovation
	Making productive use of public administration data
	Incorporating digital technologies to all economic sectors

The seven objectives of the Digital Transformation Bible (© Ministry of Digital Governance)

In order to achieve these objectives, the Digital Transformation Bible is based on 6 Strategic Pillars of intervention, which are the following:

1. Connectivity
2. Digital Skills
3. Digital State
4. Digital Business
5. Digital Innovation
6. Incorporation of technology in every aspect of the economy

The digital transformation of the country is a great challenge but also a complex and difficult task. The rapid technological changes combined with the low digital maturity of Greece demand urgent and immediate action on multiple axes through the implementation of a holistic digital approach.

Within this direction the digital transformation strategy, according to the “Bible”, concerns the implementation of more than 400 projects in the following sectors: Economy, Development & Innovation, Foreign Policy, Education, Culture, Sports, Employment & Social Affairs, Health, Environment & Energy, Justice, Public Administration, Transformation of Cities and Communities, Transportation, Maritime Affairs & Insular Policy, Tourism, Migration & Asylum Policy.

For the Digital Transformation Bible implementation to take place, the necessary institutional and legislative framework needed to be formulated in essence. The Greek Law 4727/2020 (Government Gazette 184/23.09.2020) has been introduced to regulate and codify digital governance issues in the public sector, summarizing and updating more than 120 provisions of scattered legislation of at least 15 years, while at the same time sets the regulatory framework upon which the Digital State will be structured in the next decade.

Law 4727/2020 incorporates into the Greek legal order, among others, Directive (EU) 2018/1972, establishing the European Electronic Communications Code (“EECC”), as well as Directive (EE) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies and Directive (EU) 2019/1024 on open data and the re-use of public sector information.

Main provisions of the law 4727/2020 “Digital Governance Code” include the following:

The new Digital Governance Code (4727/2020), which is the framework for deepening and developing digital governance, seeks to:

- the creation of institutional conditions for communication and transaction of citizens and businesses with public sector actors using information and communication technologies,
- the reorganization of the internal functions and procedures of the public sector bodies based on the full utilization of information and communication technologies,
- the easier exercise of the rights and obligations of individuals and businesses vis-a-vis public sector actors, the removal of regulatory barriers to rapid, efficient and remote access to public services and information; and
- consolidating trust and transparency with the expansion of digital applications.

The new Code of Digital Governance, moved in three axes:

1. regulates legislative issues which until now remained pending.
2. consolidates in one text all the basic legislation of more than twenty years concerning digital governance - updating the relevant provisions where necessary; and
3. transposes the European Open Data Directive into national law and incorporates the European Digital Accessibility Directive into codification.

Law 4727/2020 - Chapter B Governance System (Articles 5-10)

The Digital Transformation Bible is established as the key point of reference for the country's digital strategy. It is a text that is reviewed on an annual basis and sets out the basic principles, framework and guidelines for the country's digital transformation. It also regulates the specific principles governing each horizontal or sectoral initiative to this end and incorporates the recording of all relevant processes and actions that implement digital transformation.

- All IT and Communication Technologies projects must comply with the provisions of the Digital Transformation 'Bible'.
- The Digital Transformation Coordinating Committee and the Digital Transformation Executive Network are established.
- A Digital Governance Service is established in each ministry.
- Annual digital governance awards are established for public sector bodies or civil servants and officials.

Law 4727/2020 - Chapter C Personal Number (Article 11)⁶⁴

- The Personal Number is established as a number of mandatory verifications of the identity of natural persons in their transactions with public sector bodies.
- The Personal Number will be written on the new ID, it will have 12 digits, of which 9 will be the valid VAT number.
- For anyone who is issued a VAT number or AMKA, a Personal Number is also issued.
- The Personal Number is given at birth or, if the person becomes a beneficiary of VAT or AMKA at a later time, at that time.

Law 4727/2020 - Chapter V Domestic Organization of Digital Governance (Articles 17-21)

- Every public body that issues and distributes electronic public documents must follow specific procedures through closed information systems, using:
 - advanced or approved timestamp and
 - advanced or approved stamp of the body or advanced or approved signature of the competent body.
- The handling, transmission, notification and announcement of public documents between public bodies is carried out exclusively with the use of Information and Communication Technologies and especially through the Central Electronic Document Handling System (K.S.D.E.).
- The electronic protocol of each public service is established as the mandatory procedure for registering documents, regardless of whether they are issued, received, notified or transmitted electronically or not.

Law 4727/2020 - Chapter in the provision of Digital Public Services - Single digital portal of public administration (Articles 22-33)

- All digital services of the State must be designed to the standards and specifications of GOV.gr and provided through it.
- The user of "www.gov.gr" acquires access to the services after being authenticated with the Taxisnet or web banking credentials or with an approved electronic signature certificate.

⁶⁴ NB. The national e-ID tender has been published in February 2020 and it is in the evaluation process. We estimate that the tender will be awarded in June 2021 and the system will be operational 12-18 months later. The project is funded by the Public Investment Program.

- Citizens' electronic mailboxes are created, in which the documents issued by individuals through gov.gr are registered, as well as the public documents issued by public sector bodies at the request of individuals.
- The required supporting documents for each application submitted by an individual are searched electronically, provided that the relevant file is digitized. Otherwise, they are searched for services or attached electronically by the interested party.
- The time of receipt and the calculation of deposit deadlines are regulated in detail, as well as the way of informing the interested party for the submission of the documents.

Law 4727/2020 - Chapter L Interoperability (Article 84)

- Until 01-07-2022, the public bodies are obliged to make available through an online service to the Interoperability Center (KED) all the data included in supporting documents, certificates and documents in the context of their ex-officio search for the exercise of their responsibilities.
- Thus, the Interoperability Center will be able to directly interconnect services and registries of the State, eliminating or drastically reducing the queues to the absolutely necessary.

Law 4727/2020 - Chapter X Infrastructure (Articles 85-88)

- The supply of information systems is done exclusively by the General Secretariat of Information Systems of Public Administration, the National Network of Technology and Research Infrastructures S.A. and the Electronic Government of Social Security S.A.
- Then, the above bodies supply to the rest of the State the necessary systems, according to the needs of each body.
- The Cloud-first Policy is introduced, i.e. the Cloud Computing is preferred over any other technological solutions, to store data. The provision of digital public services by public sector entities is performed by using cloud computing infrastructure. Specifically:
 - Public Sector Government Cloud (G-Cloud) means all the digital infrastructure managed by the General Secretariat for Public Administration Information Systems.
 - Government Cloud Research and Education (RE-Cloud) means all the digital infrastructure managed by the National Network of Technology and Research Infrastructures (EDYTE SA).
 - Government Cloud Health Sector (H-Cloud) means all the digital infrastructure managed by the Electronic Government of Social Security (H.D.I.K.A. SA).

Additionally:

- All public procurements foresee that the systems will be hosted in the Greek Government Clouds (G-Cloud, RE-Cloud & H-Cloud).
- Central procurement for these clouds will be designed and implemented
- Migrations of existing systems to the Greek Government Clouds (G-Cloud, RE-Cloud & H-Cloud) will also implemented
- Transformation to the respective Organisations (GSISPA, IDIKA SA) to Shared Services Centers offering cloud services will also be implemented

Law 4727/2020 - Chapter Nine Digital Governance register (Articles 89-91)

- At the General Secretariat of Information Systems for Public Administration (GSISPA) an Interoperability Register is created and maintained in order to continuously record and capture the web services of public bodies.
- The General Secretariat for Digital Governance and Simplification of Procedures of the Ministry of Digital Governance establishes and maintains a National Register of Procedures in order to

record, capture and model the digital or physical administrative procedures of the State, as well as to record their information and data.

- The General Secretariat for Digital Governance and Simplification of Procedures of the Ministry of Digital Governance establishes and maintains a Register of Websites of the Greek Public Administration, which is posted on www.gov.gr.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Interconnection and interoperability of registries, systems and services for data exchange between national public organisations (ID: 16782)

Reform 2. Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies (ID: 16929)

Reform 3. Incorporation of new technologies and trends towards Public Administration's advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs (ID: 16928)

Reform 4. Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures (ID: 16823)

Reform 5. Data Governance strategy & policies for the Public Sector (ID: 16827)

b. Investments

Investment 1. Interoperability and web services development (ID: 16779)

Investment 2. Next-Generation Interoperability Centre (KED) (ID: 16964)

Investment 3. eRegistries (ID: 16824)

Investment 4. Tourism Registry e-MHTE (ID: 16785)

Investment 5. CRM for the General Government (ID: 16810)

Investment 6. New system for Public Procurements (ID: 16736)

Investment 7. Digitisation of archives and related services (ID: 16778)

Investment 8. Central Document Management System (ID: 16738)

Investment 9. Further modernisation of Public Administration's One-Stop Shops (ID: 16780)

Investment 10. Digitalisation of the Ministry of Foreign Affairs (ID: 16742)

Investment 11. Digital Transformation of the Greek National Tourism Organization (ID: 16791)

Investment 12. Digital skills upgrade programs for conscripts (ID: 16826)

Investment 13. Central BI – Data Analytics (ID: 16842)

Investment 14. Enhancement of Public Sector's Business Continuity (ID: 16287)

Investment 15. Supply of Central Cloud Computing Infrastructure and Services (ID: 16853)

Investment 16. Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET) (ID: 16955)

Investment 17. Smart cities (ID: 16854)

Investment 18. Expansion of Syzefksis II (ID: 16956)

Investment 19. Data Classification Studies for Public Sector's Information Systems (ID: 16965)

4. Open strategic autonomy and security issues

Digitally enabled public sector modernisation is one of seven flagship areas for investments and reforms of the Recovery and Resilience Facility. Getting public sector modernisation right will be crucial for Europe's future.

The component is aligned with the EU's aim of achieving competitive sustainability and cohesion through a new growth strategy as well as the key objectives of the European Digital Strategy "Shaping Europe's digital future" and it aims to help repair the damage from the COVID-19 crisis and prepare a better future for the next generations.

The component focuses strongly on investments and reforms supporting the digital transition, including a minimum of 20% of expenditure related to digital. The digital transformation of the Public Sector can spur innovation and growth throughout the economy by offering a lead market and a platform for private services, while reducing red tape and bureaucracy for all citizens and businesses. Digital solutions can also greatly contribute to strengthening the trust in government.

The component's initiatives will have a strong positive impact to Greek economy's growth as well as its resilience. Most of the proposed reforms focus on the improvement through major Changes, i.e. Digital transformation in critical structures / organisations of the Greek Public Administration and aim to improve their operations, their interoperability and cybersecurity, as well as their systems and their organisational culture. In turn, all these will lead to an increase of productivity, ability to withstand and respond to shocks (such as COVID-19) and challenges, and sustainability. Additionally, the implementation of reforms and investments related to new trends and technologies, such as AI, big data and advanced cloud services, will lead, through new markets and new needs, to new jobs creation.

5. Cross border and multi-country projects

The investments below will be implemented within the framework of the “**European Common Data Infrastructure and Services**” multi-country project of the European Union:

- Supply of Central Cloud Computing Infrastructure and Services
- Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET)

6. Green dimensions of the component

The European Green Deal enshrines the objective that all EU countries must be 100% climate neutral by 2050 and reach a 50% target by 2030. As part of the new Green Deal, Europe is also requesting the data center industry to become carbon neutral by 2030, twenty years earlier than other industries. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

The direct impacts of data centres on energy consumption and CO₂ emissions are considerable. Nevertheless, while the demand for computing power has increased tenfold over the past 10 years, the energy consumption per gigabit in data centres is 12 times lower today than in 2010. The International Energy Agency (IEA) expects that trend to continue as the IT industry maintains its focus on improving energy efficiency.

As concerns the ‘greening of the digital sector’, this component supports the implementation of policies to reduce waste and energy consumption by setting a requirement for data centres to be compliant with the European Code of Conduct for Data Centres⁶⁵, which was launched in 2008 and followed by its companion⁶⁶ that provides the full list of identified Best Practices for data centre operators as referenced in the Code of Conduct Participant and Endorser Guidelines documents with the aim of improving the energy efficiency in data centres.

The requirement is in alignment with Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, by supporting the green transition and contributing to the achievement of the Union’s 2030 climate targets set out in Article 2(11) amended by Article [10] of Regulation [European Climate Law]^{67,68} and complying with the objective of EU climate neutrality by 2050 and of the digital transition, thereby contributing to the upward economic and social convergence, restoring and promoting sustainable growth and the integration of the economies of the Union.

⁶⁵ <https://e3p.jrc.ec.europa.eu/communities/data-centres-code-conduct>

⁶⁶ Acton, M., Bertoldi, P., Booth, J., 2021 Best Practice Guidelines for the EU Code of Conduct on Data Centre Energy Efficiency, European Commission, Ispra, 2021, JRC123653

⁶⁷ COM/2020/80 final

⁶⁸ COM/2020/563 final

7. Digital dimensions of the component

The Regulation COM(2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The component envisages the modernisation of the Greek Public Administration using key digital enablers and the enhancement of services to citizens and businesses to fully support the digital transition of Greece. Extended digital transformation aiming to efficiency and effectiveness, further interoperability actions, digital interaction between public organisations, citizens and businesses, and use of advanced technologies such as AI, are core in this component. Additionally, horizontal reforms and investments on cloud computing, cybersecurity and big data, but also vertical ones focusing on the digitalisation of critical sectors, are fully aligned with the European and national digital strategic objectives.

The implementation of the envisaged measures is expected to have a long-lasting impact to the public administration, citizens and businesses and contribute to more citizen-centric, inclusive, trusted, secure, autonomous, innovative, cross-border and interoperable digital public services in Greece, which are going to have important spillover effects including: (a) efficiency and productivity gains, cost-savings, (b) effectiveness and quality improvements of public administration operations, functions and services, (c) transparency, accountability, trust and legitimacy, and (d) strengthening the growth potential, the economic and social resilience and regional cohesion.

By comprising 100% digital expenditures (see Table below - Paragraph 8) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 20% to be related to digital.

Title of reform or investment	Digital (%)	Climate (%)
Interconnection and interoperability of registries, systems and services for data exchange between national public organisations (ID: 16782)	100%	0%
Interoperability and web services development (ID: 16779)	100%	0%
Next-Generation Interoperability Centre (KED) (ID: 16964)	100%	0%
eRegistries (ID:16824)	100%	0%
Tourism Registry e-MHTE (ID: 16785)	100%	0%
Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies (ID: 16929)	100%	0%
CRM for the General Government (ID: 16810)	100%	0%
New system for Public Procurements (ID: 16736)	100%	0%
Digitisation of archives and related services (ID: 16778)	100%	0%
Central Document Management System (ID: 16738)	100%	0%
Further modernisation of Public Administration's One-Stop Shops (ID: 16780)	100%	0%
Digitalisation of the Ministry of Foreign Affairs (ID: 16742)	100%	0%
Digital Transformation of the Greek National Tourism Organization (ID: 16791)	100%	0%

Part 2: Description of reforms and investments

Digital skills upgrade programs for conscripts (ID: 16826)	100%	0%
Incorporation of new technologies and trends towards Public Administration's advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs (ID: 16928)	100%	0%
Central BI – Data Analytics (ID: 16842)	100%	0%
Enhancement of Public Sector's Business Continuity (ID: 16287)	100%	0%
Supply of Central Cloud Computing Infrastructure and Services (ID: 16853)	100%	40%
Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET) (ID: 16955)	100%	40%
Smart cities (ID: 16854)	100%	0%
Expansion of Syzefksis II (ID: 16956)	100%	0%
Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures (ID: 16823)	100%	0%
Data Governance strategy & policies for the Public Sector (ID: 16827)	100%	0%
Data Classification Studies for Public Sector's Information Systems (ID: 16965)	100%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two-step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the 'Modernise' component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment, as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs (The justification and any data or evidence used should be annexed to the recovery and resilience plan)

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical and statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculation methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones.

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-project
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan.

1st step – Development of Cost Analysis Reports

The content of the cost analysis report per investment / reform comprised in the recovery and resilience plan, includes the following common parameters / details:

- **Project snapshot:** Provides an introduction to the main characteristics of project (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides a general outlook as regards the maturity process and includes a cumulative table featuring the project's timeline regarding the milestones to be reached
- **Project budget:** Provides:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT and are neither recurrent nor incurred before the 1st of February 2020),

- indication of whether parts of the project's budget are covered by other private parties or EU financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
- budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)
- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources).

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that were carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses have been developed and used based on their suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and unit value cost estimation
- Determination of the total number of units required and application of the unit value to the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following elements:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

The top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameters based on relevant benchmarks in regards to each unit cost

Vendor Bid Analysis

Lastly, this approach refers to the estimation of the total budget per project by issuing a request for proposal (RFP). In particular, the main steps of the vendor bid methodological approach include the following:

- Preparation of the RFP that describes the work, service, or product to be provided by the vendor and the quality level required
- Communication of the RFP to a list of vendors who are qualified—meet standards of reliability and capability—to perform the type of work required
- Vendor response with a proposal for completing the work described in the RFP, including a cost estimate
- Final aggregation and estimation of the total cost per project.

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of cost parameters, an **expert judgement** has been requested. In particular, the expert judgement aims to provide the following input:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based on expertise that has been acquired in a specific knowledge area, highlighting critical factors and possible risks
- Enrichment and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the execution of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis has been ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports.

Main elements of the methodology approach and cost parameters

The methodology approach followed and the estimation of the relative costs as regards the investments and reforms included in the second component (“Modernize”) of the second pillar of the recovery and resilience plan (“Digital”) is based on three main elements:

- The supply and purchase of required IT equipment and licenses,
- The development of IT systems and software and

- The technical consulting, management and training services needed for the development and operation of the relevant digital systems and software.

1st element: Purchase of required equipment and licenses

In the first element the relative cost estimates concern the purchase of the IT equipment and licenses required in each investment and reform included in the digital pillar. In this context, the estimation and the justification of the investments' and reforms' cost included in this element is based on specific parameters and actions which refer to the:

- Identification of the required equipment and licenses needed to be purchased
- Determination of the total amount of equipment or licenses required for the implementation of the reform / investment
- Estimation of the relative cost per unit (e.g. in items for equipment or in years for the licenses) based on the examination of all available information on the relative cost of similar reforms and investments, taking current market rates into consideration.

2nd element: Development of IT systems and software

This element includes the estimated cost of all the required actions concerning: a. the requirement analysis and solution design, b. the installation, deployment and customization of IT systems and software, c. the implementation and integration services and d. the pilot operation services. In particular, the costing of all the actions required for the development of the IT systems and software is conducted considering the following cost parameters:

- Identification of the relevant expertise as well as the number of personnel needed for the development of the IT systems and software
- Definition of the amount of work needed for the completion of each action, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

3rd element: Technical consulting, management and training services

The cost as regards the third element refers to the provision of the complementary services required for the development of IT systems / software which are related to the technical consultation, the management as well as the training services required for the operation of the systems. In this field, the calculation of the relative cost of these services is based on the following parameters:

- Identification of the need of such services per project (e.g. need for a technical study or implementation of specific training program) and determination of the number of the relative personnel needed for each one of them
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs for the technical consulting, management and training services per project

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 2.3: Digitalisation of businesses

1. Description of the component

Policy areas/domain: Digitalisation of businesses

Summary: Digital technologies are radically changing all sectors of the economy. The application and adoption of digital technologies, as well as the utilization of digital skills are no longer an optional action for businesses but a key factor of sustainability and resilience. Both in the Digital Economy and Society Index - DESI (2020) and in the Digital Transformation Scorecard, Greece lags its European partners into the majority of areas related to the digital maturity of businesses. In 2015, the European Commission launched an ambitious strategy to achieve the Digital Single Market, a critical success factor, which is a highly competitive digital industry in Europe supported by the integration of digital innovations in all areas. Faced with the challenge of digitalization, businesses from all sectors are called upon to build on the benefits from advances in digital technologies such as the Internet of Things (IoT), 5G networks, cloud computing, data analytics and robotics so as to transform their products/services, processes and business models, ultimately enhancing their resilience and ensuring sustainable growth prospects.

Although digitalisation presents an enormous opportunity to streamline processes, expand market presence and create a more resilient business, it is also an enormous challenge for the SMEs that form the backbone of the Greek economy. In Greece, despite the fact that in some areas of digital technologies uptake businesses demonstrate higher performance compared to the European average (e.g. investment and utilization of Big Data Analytics systems), these are not accompanied by the corresponding business and operational transformation and their adoption in the corporate culture and decision-making processes.

The aim of this component is to increase the take up of digital technologies by businesses, reducing the digital gap between Greek small and medium sized enterprises (SMEs) and those of the European average. This is going to be achieved through the proposed set of investment and reform of this Component, by (a) creating a digital infrastructure through funding for the acquisition and implementation of digital tools and processes, and increasing the digital awareness of business executives, (b) directly encouraging investments in modern digital technologies, using tax incentives on tangible and intangible assets, in order to change the business environment and (c) upgrading the cash registers and POS ecosystem to enhance transparency and healthy competition.

Objective: The outbreak and rapid spread of the COVID-19 pandemic has created an unprecedented situation with urgent and significant consequences in all sectors of the economy and businesses. To address the problems and challenges that have arisen, in conjunction with the opportunities opened by the changes that occur mainly due to the rapid technological developments of the 4th industrial revolution, Greek businesses are seeking access to valuable resources for the adoption of digital technologies and consequently the transformation of their business models that will ensure their sustainability and resilience in the highly competitive global environment.

The aim of this component is to raise the awareness and increase the adoption of digital technologies by businesses, in order to expand their digital presence and the interaction with their customers through digital channels, support their growth in a unified market and increase their resilience to unpredicted crises. It also aims to facilitate and make more transparent the interactions between businesses and state authorities, while in parallel supporting a green transition.

Link with European Pillar: "Digital transformation", "Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning single market with strong SMEs"

Link to the European flagship: "Scale Up"

Reforms and investments

Reforms

- **Reform 1.** Establishment of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation (ID: 16973)

Investments

- **Investment 1.** Digital Transformation of SMEs (ID: 16706, COFOG: 04.1)

Estimated cost: EUR 475 million, of which EUR 375 million (79%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

The 4th industrial revolution is transforming the world as we know it at unprecedented speed. Digital technologies such as the Internet of Things (IoT), cloud computing, big data and data analytics, robotics and 3D printing have changed the way businesses operate, how people connect and exchange information, and how they interact with the public and private sectors. Recent studies estimate that the digitalisation of products and services can add more than EUR 110 billion of annual revenue to the European economy in the next five years.

Digital transformation is therefore becoming an increasingly important condition for modern economies to thrive and has the potential to affect many sectors of the economy (including transport, energy, agri-food, telecommunications, financial services, factory production and health care) and to transform people's lives. Nevertheless, it also includes challenges. Business leaders are still struggling to implement effective strategies to use the digital world as a source of innovation for their customers or users. In addition, the need for up/reskilling is widely recognised at all levels. If companies want to fully exploit the tremendous opportunities brought by digital technologies, they must start setting up new forward-looking training programmes in order to create the digital savvy workforce they need. In addition, policy makers at all levels (EU, national and regional) should continue putting in place bold policy initiatives aiming at establishing the right framework conditions for raising the next-generation sector-specific workforce.

Moreover, the COVID-19 pandemic and the related confinement measures, involving the lack of physical contact with coworkers, vendors, partners, and the ultimate consumer, demonstrated the urgent need for companies to develop adequate digital solutions and implement innovative tactics to maintain operations and interact with their customers through digital channels. Exponential technologies can play a leading role in the digital transformation allowing businesses to gain a competitive advantage over their peers, increasing not only operational resilience, but enabling flexibility through the crisis and in a new reality characterized by rapidly challenging market dynamics.

In this context, Greece has one of the least advanced digital economies in the EU, as mentioned in the 2020 Country Report⁶⁹. Specifically, according to the Digital Economy and Society Index (DESI) 2020, Greece ranks 27th out of the 28 EU Member States. On the integration of digital technology by businesses, Greece scores better and ranks 24th in the EU.

The analysis of the 'integration of digital technology' sub-index shows that the number of enterprises in Greece that share electronic information continues to rise and remains above the EU average (38% vs 34%). Nevertheless, Greece lags behind the EU average in the share of enterprises using cloud services. Meanwhile, the share of SMEs selling online went down slightly in 2019 (9%, down 2% since 2018). Their share of turnover generated online did not fall, though it remains low in comparison to the EU average.

As highlighted in the Council Specific Recommendation 2020⁷⁰ (recital no. 25), despite some progress made in the previous years, Greece needs to accelerate its efforts to improve its digital performance, including activities for the deployment of digital tools and services by and for businesses. Maintaining the

⁶⁹ SWD (2020) 507 final - Country Report Greece 2020

⁷⁰ 2020/C 282/08

momentum and locking in the gains achieved by the launch of a number of digital services, since the COVID-19 pandemic outbreak, will be especially pertinent for the recovery phase.

Furthermore, specific reforms to digitalise the business activities will improve tax compliance, tax transparency, timely submission of tax returns and combat of tax evasion, as mentioned in the Country Report for 2019, and create a healthy competitive environment between the enterprises. The digital transformation of the tax authority and tax administration procedures will also remedy longstanding weaknesses in tax collection and compliance.

Undoubtedly, digitalisation requires a significant investment. Larger firms are more inclined to make such investments as they have access to the required capital but also reap significant benefits. Also, start-ups and spin-offs with high growth potential, hold in their DNA to build up as digital companies from the ground up. Unfortunately, this is not the case for most of the industry and in particular for SMEs, mid-caps and traditional sectors like construction or agri-food. The Greek economy is dominated by SMEs with fewer than 10 employees, with limited use of advanced digital technologies, operating in traditional non-digital, “low-tech” sectors; hence, such an investment should be designed to be extremely easy to both finance and execute.

This “digitisation divide” across companies of different sizes and across different industries is due to two aspects: first, smaller companies shy away from investments in new technologies if it is not clear whether these technologies turn out to be profitable. Second, they often lack the technical knowledge and skilled staff, which are necessary to use them to optimise their processes and develop new products based on new technologies.

Digital transformation relies heavily on the ability of businesses to obtain and develop the right talent with the required skill set to fully participate in the digital economy. Consequently, combined efforts from both public and industry players are necessary to upskill the working population.

Key challenges underpinning the reasons SMEs in Greece are not investing in digital technologies, are:

Investment barriers: SMEs have low access to finance productive investments in general. SMEs tend to report more dissatisfaction than large firms, peaking at 16% of SMEs being dissatisfied with collateral requirements and 15% with the cost of finance⁷¹; In addition, digital transformation might be quite costly for SMEs, if not properly designed and streamlined utilising best practices. Finally, it lacks proper subsidy schemes, which usually focus on short employment rather than long term transformation strategies.

Information asymmetries: SMEs often lack awareness about the benefits of digitalisation and knowledge about how to adopt digital technologies into their businesses. They are not sufficiently protected or prepared for the upcoming data-agile economy, nor have they clearly realised the threats of such a change in the economic environment.

Lack of digitally competent workforce: Already 90 % of all jobs require at least a minimum level of digital skills, and demand is growing for digital specialists. However, Greece remains below the Union average, as in 2019 only 51 % of people aged 16-74 appeared to have at least basic digital skills, compared to a Union average of 58 %⁷².

Lack of trust in digital transformation: New challenges are also emerging in terms of the safety of connected systems, products and services, as well as for businesses' liability. Industrial supply chains are becoming increasingly complex and involve a growing number of players from different sectors. Faulty

⁷¹ European Investment Bank Investment Survey 2019 – Greece

⁷² 2020/C 282/08 Recital n° 25

sensors, vulnerable software or unstable connectivity may make it difficult to determine who is technically and legally responsible for damages.

Lack of cybersecurity readiness: Digital transformation demands robust, secure and resilient digital network infrastructure. With cybersecurity incidents on the rise worldwide, critical infrastructure and democratic processes are under threat. Currently, Greece is not adequately prepared to address cybersecurity threats. Industry and the public sector struggle to secure the equipment and tools needed (such as quantum technologies) due to the fragmentation of resources and know-how.

Additional challenges in this respect, which are taken up though by other components of Greece's recovery and resilience plan, include:

Connectivity: Availability of very-high-capacity networks and uptake of very high-speed internet, which is a high priority in the Digital Transformation Bible, remains low in Greece.

Administrative burdens: Both digital and non-digital Greek firms identify, relatively frequently, obstacles to investment, notably due to business regulations, taxation and legal framework restrictions⁷³.

b. Objectives

The component is in line with the country specific recommendations (CSRs) for the country for years 2019 and 2020 that mention the need to focus investment on the digital transition, digital infrastructure and skills and promote digital transformation of businesses (CSR 3 2020 and CSR 2 2019⁷⁴). The proposed reform and investment explicitly aim to increase digital transformation of businesses and improve digital competencies. This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020. Specifically:

(i) Reform 1 aims at addressing recommendations 2:2019 and 3:2020, as well as lack of dedicated financing schemes by directly incentivising investments in digital transformation, utilising super-deduction of investments on tangible and intangible assets.

(ii) Investment 1 aims at addressing recommendations 2:2019 and 3:2020 by creating digital infrastructure and facilitating the digital transformation of SMEs 16706 through financing the supply and implementation of digital tools and services, enhancing digital innovation and advancing the digital maturity of SMEs.

All the measures to reach these objectives shall be implemented in compliance with the principles of gender equality and equal opportunities for all, and the safeguarding of these principles shall be taken into account and promoted throughout the implementation of the Component's reform and investment.

The component's investment facilitates the much-needed capital to finance the investment in digital technologies for SMEs, as well as a central mechanism to raise business executives' awareness and promote productivity growth and the development of innovative business. The reform of the component offers incentives that help to create a digital business ecosystem that promotes the digital transformation of SMEs by (a) creating a digital infrastructure through funding for the acquisition and implementation of digital tools and processes, and increasing the digital awareness of business executives, (b) directly encouraging investments in modern digital technologies, using tax incentives on tangible and intangible assets, in order to change the business environment and (c) upgrading the cash registers and POS ecosystem. All measures raise awareness of the available solutions and their potential benefits and promote change, especially to smaller family-owned SMEs in traditional sectors.

⁷³ Who is prepared for the new digital age? Evidence from the EIB Investment Survey 2020 - Greece

⁷⁴ 2019/C 301/08

The component's reform and investment are aligned and act in a mutually reinforcing way with other components, in particular component 2.1, which aims to tackle connectivity issues, component 3.2 which further seeks to address the lack of IT and digital skills, component 4.1, which intends to overcome administrative obstacles by simplifying tax legislation and modernising tax administration and component 4.7, which streamlines business regulatory framework for investments.

The component also supports Europe's SME strategy for a sustainable and digital future⁷⁵. Only a thriving community of SMEs using digital technologies and data can position Europe as a world leader in shaping the digital economy. Digitalisation can provide great opportunities for SMEs to improve the efficiency of production processes and ability to create innovative products and business models.

European Flagships: The component champions the **European Flagship 'Scale Up'** by increasing the share of companies using advanced cloud services and big data by 2025. The digitalisation of business activities allows a company to easier transfer a significant part of its activities to cloud services and create a single point of reference for all its data for further processing and correlation.

Specific objectives of this component include the following: (a) *Potential growth and job creation*: Investment in digitalisation will boost the creation of qualitative jobs, will counter down the brain drain phenomenon that Greece has experienced since the economic crisis, will increase the inclusion of lower skilled employees that will have to manage simplified services and will also attract foreign direct investments. It will also have important spill-over effects on the Greek economy, including rural and remote areas and will increase productivity and quality of services rendered. Almost 50% of digital firms report having increased the number of employees in the last three years, compared to less than 35% of non-digital firms. While the median wage per employee is below the EU average for both digital and non-digital firms in Greece, the median wage per employee is 1.3 times higher in digital compared to non-digital firms⁷⁶, and (b) *Mitigating the impact of the crisis and convergence*: One of the topics that the covid-19 pandemic emerged is that being digitally-savvy can be a life changer (if not saver) for a business. The crisis has clearly demonstrated that businesses that have embraced digital technologies are more resilient to a crisis and can maintain their reach in the market. The objectives of the component contain measures to set up delivery systems and electronically reach out clients, digitise internal operations, transfer common operations to more resilient and scalable cloud services, utilise digital channels and 24x7 chatbots, further embrace data analytics to make informed decisions. Finally, it further shifts the focus from infrastructure to human capital, enabling the Greek firms to more easily compete with their peers in the Single Market area.

c. National Strategic Context

The component is aligned with the directions set out in the 'Digital Transformation Bible', which aims to support the digitalisation of the Greek industry and build the key digital enablers (i.e. digital skills, digital infrastructure, digital services, industrial data platforms and data spaces) that are required to be in place to accelerate the Industry's transition to Industry 4.0. A key priority is to protect and grow selected value chains and areas of competitive advantage for the country that may be vulnerable to external threats or that could be further enhanced by global opportunities.

The gradual increase of the digital maturity of Greek businesses and the closing of the gap against the European average is an encouraging element, indicating that Greek businesses have already initiated their digital transformation. Online presence of small and medium-sized enterprises is gradually improving

⁷⁵ COM(2020) 103 final

⁷⁶ Who is prepared for the new digital age? Evidence from the EIB Investment Survey 2020 - Greece

through the adoption of mobile applications, while the security of websites and online information systems is also improving.

In the field of infrastructure, businesses are gradually transferring parts of their IT infrastructure to cloud computing services and the preference for business models of enterprise information systems provided as a service is also growing. At the service level, progress is being made in areas such as integrated service delivery, transaction processing and online customer support. Electronic banking and the use of plastic money are expected to be increased.

Regarding the actions of production automation with the use of Industry 4.0 technologies (e.g. Big data analytics, Internet of Things - IoT, Simulation and modeling, Cybersecurity, predictive maintenance, etc.), large industrial companies have already leveraged significant investments, while SMEs, regardless of sector, seem to be lagging behind and in need of specialized support in this direction.

The Digital Transformation Bible focuses on the following objectives in order to promote a set of horizontal interventions to create a favorable digital environment coupled with a modern legislative framework, in which Greek companies can accelerate their digital transformation:

- Digitalization of all public administration services to businesses
- Strengthening systems and digital services in relation to the export orientation of businesses
- Dissemination of best practices to strengthen the online presence of Greek businesses
- Creation of new ecosystems and accelerating the digital transformation of the economy
- Data utilization for the development of new products, business models and markets
- Digital upskilling of human resources in the private sector
- Strengthening of young entrepreneurship through the 'KEP - Plus' program
- Introduction of advanced and integrated production, automation and robotics systems
- Development of digital services / systems for the support of start-ups or already established businesses (scale-up)
- Utilization of IT tools for evidence-based policy making in the public sector

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Establishment of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation (ID: 16973)

b. Investments

Investment 1. Digital Transformation of SMEs (ID: 16706)

4. Open strategic autonomy and security issues

According to the 2020 Annual Sustainable Growth Strategy, the digital transition is key to strengthen the social and economic resilience of the EU and the Member States, their sustainable growth potential and job creation. The COVID-19 pandemic has accelerated the trend towards the digital transformation of Greek SMEs, ultimately leading to their transition to the Industry 4.0 era.

The component contains measures to set up a favorable digital business ecosystem that shall promote the digital transformation of SMEs, by creating a digital infrastructure through funding for the acquisition and implementation of digital tools and processes and increasing the digital awareness of business executives, directly encouraging investments in modern digital technologies using tax incentives on tangible and intangible assets, and upgrading the cash registers and POS ecosystem.

The component focuses strongly on investments and reforms supporting the digital transition. A key priority is to protect and grow selected value chains and areas of competitive advantage for the country that may be vulnerable to external threats or that could be further enhanced by global opportunities. Additionally, the proposed investment aims to raise the awareness and increase the adoption of digital technologies by businesses, in order to expand their digital presence and the interaction with their customers through digital channels, support their growth in a unified market and increase their resilience to unpredicted crises. It also aims to facilitate and make more transparent the interactions between businesses and state authorities, while in parallel supporting a green transition.

The digitalisation of businesses shall further simplify the interactions between businesses and the Public Administration for the benefit of both parties. On the one hand, the businesses will simplify their interactions with corresponding authorities, allowing them to focus on their core business, unique offering and competitors. On the other hand, authorities will have better transparency in business activities, for regulatory and tax purposes (evasion, smuggling etc.) as well as better allocation of public investments and subsidies. These goals are going to be achieved by the introduction of new digital tools in businesses and the interoperability with the Independent Authority for Public Revenue (IAPR) through next generation POS and cash registers. Component 4.1 “Making taxes more growth friendly and improving tax administration and tax collection” contains a set of measures that supplement and enhance the transparency of transactions by providing a digital collaboration environment between businesses and the State. Such an environment will inherently promote the businesses that act in good will and create a solid and healthy backbone of the overall economy.

5. Cross border and multi-country projects

Non applicable.

6. Green dimensions of the component

The European Green Deal enshrines the objective that all EU countries must be 100% climate neutral by 2050 and reach a 50% target by 2030. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

A successful transition to climate neutrality will depend on the capacity of Europe to bring innovation to the table, leveraging digital technologies as key enablers. Digital solutions are key to fighting climate change and achieving climate change mitigation by promoting green transition and capital flows towards infrastructure with decreased energy requirements and improved carbon footprint.

Towards this direction, the component contains measures that promote the “paperless” office that offers significant cost savings for printing and storing, speed and accessibility of information, workforce flexibility for mobile and remote working. All these goals have a common denominator, i.e. decreasing carbon footprint and gas emissions, reducing commuting and benefiting the environment.

7. Digital dimensions of the component

The Regulation COM(2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The component intends to increase the number of Greek enterprises that use and invest in modern technologies, reducing the digital gap between Greek SMEs and their counterparts on the European average, and in line with Greece's Digital Transformation Bible, which aspires to *"help every Greek business become a digital business"*.

It is also aligned with the objective set out in "Shaping Europe's digital future" for a fair and competitive economy where companies of all sizes and in any sector can compete on equal terms, and can develop, market and use digital technologies, products and services at a scale that boosts their productivity and global competitiveness, and consumers can be confident that their rights are respected⁷⁷.

The component's reform and investment are going to have important spillover effects through the establishment of a digital business ecosystem that promotes the digital transformation of SMEs by: (a) creating a digital infrastructure through funding for the acquisition and implementation of digital tools and processes, and increasing the digital awareness of business executives, (b) leveraging tax incentives on tangible and intangible assets, directly encouraging investments in modern digital technologies in order to change the business environment and (c) upgrading the cash registers and POS ecosystem to enhance transparency and healthy competition.

Moreover, digital transformation will enable SMEs to grow in order to cement their position in the market and quickly reach a size and maturity that is large enough to increase revenue and profits.

By comprising 100% digital expenditures (see Table below - Paragraph 8), this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

⁷⁷ COM(2020) 67 final

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 20% of the total expenditure of the recovery and resilience plan to be related to digital. The Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility states that the digital transition should also incentivise the digitalisation of SMEs, which aims to increase the Union's competitiveness at global level and will also help make the Union more resilient, more innovative and less dependent by diversifying key supply chains.

Title of reform or investment	Digital (%)	Climate (%)
Establishment of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation (ID: 16973)	100%	0%
Digital Transformation of SMEs (ID: 16706)	100%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two-step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of the 'Digitalisation of businesses' component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment, as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provide sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculation methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The content of the cost analysis report per investment / reform comprised in the recovery and resilience plan includes the following common parameters / details:

- **Project snapshot:** Includes an introduction to the main project characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides a general outlook as regards the maturity process and includes a cumulative table featuring the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are neither recurrent nor incurred before the 1st of February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or EU financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for cost estimation, cost analysis per critical cost drivers, identification of unit costs, total unit number definition, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources).

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that were carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and the in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses have been developed and used based on their suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and unit value cost estimation
- Definition of the total number of units required and application of the unit value to the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the execution of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of required or additional data and information
- Investment size verification and cost identification
- Preparation and review of cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed and the estimation of the relative costs as regards the investments and reforms included in the third component (“Digitalization of businesses”) of the second pillar of the recovery and resilience plan (“Digital”) are based on three main elements:

- The supply and purchase of the required IT equipment and licenses,
- The development of IT systems and software and
- The technical consulting, management and training services needed for the development and operation of the relevant digital systems and software.

1st element: Purchase of required equipment and licenses

In the first element the relative cost estimates refer to the purchase of the IT equipment and licenses required in each investment and reform included in the digital pillar. In this context, the estimation and the justification of the investments' and reforms' cost included in this element is based on specific parameters and actions which refer to the:

- Identification of the required equipment and licenses needed to be purchased
- Definition of the total amount of equipment or licenses required for the implementation of the reform / investment
- Estimation of the relative cost per unit (e.g. in items for equipment or in years for the licenses) based on the examination of all available information on the relative cost of similar reforms and investments, taking current market rates into consideration.

2nd element: Development of IT systems and software

This element includes the estimated cost of all the required actions concerning: a. the requirement analysis and solution design, b. the installation, deployment and customization of IT systems and software, c. the implementation and integration services and d. the pilot operation services. In particular, the costing of all the actions required for the development of the IT systems and software is conducted considering the following cost parameters:

- Identification of the relevant expertise as well as the number of personnel needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of each action, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

3rd element: Technical consulting, management and training services

The cost as regards the third element refers to the provision of the complementary services required for the development of IT systems / software which are related to the technical consultation, the management as well as the training services required for the operation of the systems. In this field, the calculation of the relative cost associated with these services is based on the following parameters:

- Identification of the need of such services per project (e.g. need of a technical study or implementation of specific training program) and determination of the number of the relative personnel needed for each one of them
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs of the technical consulting, management and training services per project.

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

Part 2: Description of reforms and investments, Employment, skills and social cohesion

COMPONENT 3.1: Increasing job creation and participation in the labour market

1. Description of the component

Policy areas/domain: smart, sustainable and inclusive growth (economic cohesion, jobs, productivity, competitiveness); digital transformation

Summary: This component puts in place labour market reforms and actions incentivising higher long-term employment and labour productivity, ultimately delivering higher incomes, enhanced welfare and reduced inequalities. The main avenues through which the component will pursue its objectives include, but are not restricted to: (a) labour market reform, upgrading the market's ability to create jobs and increasing its resilience in the event of shocks; (b) incentives-compatible, state of the art Active and Passive Labour Market Policies, enhancing labour market activation, job creation and safety nets against unemployment; and (c) digital transformation of Employment services.

Objective: The overall objective of this component is to introduce labour market policy interventions enhancing growth and job creation; improving job quality; strengthening economic and social resilience, promoting labour market inclusion and reducing inequalities, poverty and social and economic exclusion. The components' contents are firmly anchored in the RRF's main objectives, the national Growth Strategy underpinned by the Pissarides' Committee report and National Country Specific Recommendations (CSRs) provided in the context of the European Semester 2019 and 2020. Specifically, through a cohesive and targeted intervention involving the modernisation and simplification of the Labour Law (ID: 16744), the activation of cutting-edge Active and Passive Labour Market Policies (ALMPs & PLMPs) and the digitalisation of employment and relevant public administration services, the component will significantly promote growth, job creation and economic and social resilience. The component also promotes digital transition, leading to a more effective and resilient system of public employment services. Overall, through its reforms and investments the component promotes the European Flagships Modernise and Upskill and Reskill.

Link to the European Flagship: Modernise, Upskill and Reskill

Reforms

- **Reform 1.** Modernisation and Simplification of the Labour Law (ID: 16744)
- **Reform 2.** Reform of Active Labour Market Policies (ID:16747, COFOG 10.5)
- **Reform 3.** Reform of Passive Labour Market Policies (ID:16746, COFOG 10.5)

Investments

- **Investment 1:** Digital transformation of the Labour Systems (ID:16750, COFOG 10.5)
- **Investment 2:** OAED digitalisation (ID:16942, COFOG 10.5)
- **Investment 3:** Restructuring and rebranding of OAED local PES branches (KPA2) (ID: 16941, COFOG 10.5)

Estimated sum of grants and loans: EUR 776 million, of which EUR 776 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Despite improving labour market conditions observed prior to the outbreak of the covid-19 pandemic, the Greek labour market presents long-standing challenges including:

- A high rate of natural (structural) unemployment
- Limited capacity to adjust to negative economic shocks, resulting in persistent increases in unemployment beyond its natural rate.
- Uneven distribution of unemployment, with women but also the young and sections of the population with special characteristics being over-represented in total unemployment statistics.

- An excessive rate of long-term unemployment, which according to 2018 data is equal to 70% of total unemployment.
- Low labour market participation, particularly among women but also the elderly and vulnerable groups, resulting in high dependency ratios.
- Low labour productivity underpinned, among others, by limited skills, also including digital skills
- Relatively high employment in the informal sector, resulting into social safety nets being unavailable to large parts of the labour force, unfair market competition among businesses and loss of public revenue.
- High administrative burden for businesses to comply with labour and social security legislation (e.g. high accounting fees), contributing to high operation costs and/or incentivising low compliance with social security requirements. This burden is directly related to existing digital gaps.
- The capacity of the PES has been strengthened but is still not commensurate to the unemployment challenge and the model for delivering active labor market policies should be reformed to support timely and more effective customized support to jobseekers.

The above drawbacks contribute towards negative economic outcomes, including low growth, low real wages, high income inequalities, poverty (including in-work poverty) and risk of economic and social exclusion. Furthermore, the challenges outlined above are set to increase, following the outbreak of the covid-19 pandemic, especially among vulnerable groups and those working in the informal sector of the economy.

b. Objectives

The overall objective of this component is to introduce labour market policy interventions enhancing growth and job creation; improving job quality; strengthening economic and social resilience, promoting labour market inclusion and reducing inequalities, poverty and social and economic exclusion. The components' contents are firmly anchored in the RRF's main objectives, the national Growth Strategy underpinned by the Pissarides' Committee report and National Country Specific Recommendations (CSRs) provided in the context of the European Semester 2019 and 2020. Specifically, through a cohesive and targeted intervention involving the modernisation and simplification of the Labour Law (ID: 16744), the activation of cutting-edge Active and Passive Labour Market Policies (ALMPs & PLMPs) and the digitalisation of employment and relevant public administration services, the component makes a significant contribution to growth, job creation and economic and social resilience.

The component also promotes digital transition, leading to a more effective and resilient system of public employment services. Furthermore, through the proposed OAED organizational reform and digital transformation, the component aims at reforming and transforming the national PES into a facilitator for innovation towards the improvement of its quality, capacity and effectiveness, mitigating the impact of the covid-19 pandemic on the labour market and incomes.

Overall, through its reforms and investments the component promotes the European Flagships Modernise and Upskill and Reskill. The component is in line with the country specific recommendations (CSRs) for Greece for years 2019 and 2020, which recommend focusing investment and investment-related policies on employability and digital policies. All key reforms and investments of the component act synergistically to tackle the issues regarding Greek employment and Labour Market, as described in the recommendations.

The objectives of the individual reforms and investments included in the component have as follows:

Reform 1. Modernisation and Simplification of the Labour Law (ID: 16744), in line with recommendations CSR2:2019 and CSR4:2020, and the policy proposals included in the Pissarides' Committee report introduces a bold structural reform of individual labour law, collective labour law, trade union law, law on Integrated Information System ERGANI and the monitoring mechanism of undeclared and under-declared work. At the same time the reform introduces work-life balance and bridges the gender employment gap.

Reform 2. Reform of Active Labour Market Policies (ID:16747) and its investments and Reform 3: Reform of Passive Labour Market Policies (ID:16746) aim to maximise the effectiveness of the ALMP toolbox through the redesign, strengthening and overall reform of its ALMP portfolio, coupled with significant investments in programmes that subsidise employment in the private sector for unemployed persons, the upskilling and reskilling of the labour force, as well as the opportunity for gaining work experience through paid full-time internships. In addition to combating unemployment and promoting social cohesion, the reform supports firms during the present crisis period, by promoting hiring and preventing layoffs; and incentivising growth and expansion through lower unit labour costs, driven by lower effective (due to targeted subsidies) labour costs and increased productivity. Overall, the reform will Reform OAED, with a focus on ALMPs and reducing disincentives to employment; significantly support green transition and increase female and youth participation in the labour market; put in place stronger links between the education, training, and upskilling/reskilling efforts with the needs of the labour markets; provide support for the long-term unemployed.

Reform 3: Reform of Passive Labour Market Policies (ID:16746): Overall, the PLMP framework lacks adequate incentives for work yet at the same time provides disincentives for labour market activation.

The NSPU needs to be modernized and aligned with international best practices in terms of promoting efficiency and effectiveness through the contribution and distribution schemes, reducing disincentives to employment and activating the unemployed so that they can be adequately supported during unemployment but also smoothly and efficiently integrated into the labour market. The design of a new unemployment benefit and allowance system aims, on the one hand, at supporting the income of jobseekers and, on the other hand, at providing strong incentives for their rapid entry into the labour market. In this regard, the following distinct measures must be adopted:

1. Rationalization and redesign of the unemployment benefit/allowance system, including the abolition, simplification, merging or reform of the benefits/allowances.
2. Implementation of a mutual obligations framework for the unemployed and the PES that promotes active employment search and continuous availability for work, including a system of sanctions to ensure that the registered unemployed are actively seeking employment, , as well as removal of disincentives for the upskilling/reskilling of unemployed workers

Investment 1. Digital Transformation of the Labour Systems (ID:16750) aims at promoting digital transition in key sectors of the public administration's capacity to offer better and faster services to employees and the employers, with a view to cutting red tape, improving the effectiveness of labour market controls, reducing undeclared and undeclared work, obtaining timely and accurate data. Additionally it accelerated the digital transformation of EFKA and the digital transformation of the occupational health and safety system.

Investment 2. OAED digitalisation (ID:16942) aims at reforming and transforming the national public employment service (PES) into a facilitator for innovation towards the improvement of its quality, capacity and effectiveness. A fundamental part of this reform is its substantial digital transformation through the integration of digital technology and state-of-the-art AI into all operational and service areas, thus

changing internal processes and delivering added value to its customers, both employers and the labor force. OAED's digitization process also insinuates a deeper cultural change driven by innovation, experimentation, customization, as well as higher risk tolerance.

Investment 3. Restructuring and rebranding of OAED local PES branches (KPA2) (ID: 16941) aims at enhancing OAED capacity and flexibility in terms of governance efficiency and evidence-based and data-driven decision-making, by investing in OAED local customer service centers for the promotion of employment (KPA2), with a renewed focus on customized matching services, enhanced counseling, and outreach, and also major upgrades, renovations and rebranding to accomplish its new strategic goals.

c. National strategic context

The Pissarides Committee Report, underpinning the new Growth Strategy of Greek economy, finds that the Greek labour market is characterised by low productivity, low participation and a high dependency ratio. The Report advocates policy Intervention on both these issues including, among others, (a) improving the skills of the labour force (employed and unemployed) and (b) increasing the participation rate of those groups of the population currently under-represented in the labour market (women, young people and older people).⁷⁸ The COVID-19 pandemic renders such reforms even more necessary, as it is expected to accelerate the pace of automation of the economy which requires the retraining of the workforce in, inter alia, digital skills; and the mobility of employment between the sectors of economic activity. The component also fits within an overall national strategic context in the policy field of the digitalisation of public administration, which applies to all promoted reforms of digitalisation of the employment and social security services.

Link to the European Semester: The reforms and investments included in this component address Country Specific Recommendations provided in the context of the European Semester. In particular, they address CSR2 2019, recommending Greece to focus investment-related economic policy on (among others), skills and employability. Reforms and investments included in this component also address CS2 2020, recommending, among others: (a) To mitigate the employment and social impacts of the crisis, ensuring effective activation support; and (b) focus investments on the green and digital transition in particular (among others) very-high capacity infrastructure and skills. CSR2 2020 also recommends Greece to improve effectiveness and digitalisation of the public administration.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: Modernisation and simplification of the Labour Law (ID: 16744)

Reform 2: Reform of Active Labour Market Policies (ID:16747)

Reform 3: Reform of Passive Labour Market Policies (ID:16746)

⁷⁸ Pissarides Committee report for the Greek Economy (Growth Strategy), (Interim report, July 2020) – Chapter 4.5.2

b. Investments

Investment 1: Digital transformation of the Labour Systems (ID:16750)

Investment 2: OAED digitalisation (ID:16942)

Investment 3: Restructuring and rebranding of OAED local PES branches (KPA2) (ID: 16941)

4. Open strategic autonomy and security issues

Non applicable

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

The Component is fully aligned with the emerging need to focus on green economy, such as to support unemployed to enter the circular economy, with specific skills development, while investing in schemes that will allow companies that want to accelerate their transition to green economy meeting the need to get the right workforce with the most relevant green skills. Regarding Active Labour Market Policies a strong focus will be given to providing green-skills training to beneficiaries as well as financial incentives to companies that promote green and circular economy.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The investments entailed under the present component (namely investments “Digital Transformation of the Labour systems” (ID:16750) and “OAED Digitalisation” (ID:16942)) will contribute towards the digital transition in key sectors of the employment and social security sector of public services. The investments include IT system integrations, services upgrades (including ATLAS Digital Pension Award system upgrade, new e-EFKA Integrated Information System), simplification of processes and systems interoperability with key functions. Furthermore, the component contains the OAED digitization in all areas of operation and service which will simplify internal processes and increase service experience value both to customers and workforce. Specifically, OAED plans to acquire new IT systems and applications as well as redesign some of its current systems (i.e. HRM OAED, VET OPS, DMS, OAEDapp etc.), which will strengthen the decision-making process, facilitate data management and maximize resource utilization. Also, the investments aim to lower administrative burden and costs, reduce paperwork, eliminate duplication into systems functions and increase transparency, towards a more efficient and resilient system of public employment services.

8. Climate tracking and digital tagging

Title of reform or investment	Climate (%)	Digital (%)
Modernisation and Simplification of the Labour Law (ID: 16744)	0%	0%
Reform of Active Labour Market Policies (ID:16747)	0%	0%
Green skills, jobs, economy - Green skills, jobs, economy - Active Labour Market Policies Reform (ID: 16747)	100%	0%
Passive Labour Market Policies Reform (ID:16746)	0%	0%
Digital Transformation of the Labour Systems (ID:16750)	0%	100%
Restructuring and Rebranding OAED (ID: 16941)	0%	0%
OAED Digitalisation (ID:16942)	0%	100%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of this component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs (The justification and any data or evidence used should be annexed to the recovery and resilience plan)

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the following process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The estimation of the costs as regards the investments and reforms included in the first component (“Promote job creation and participation in the labor market”) of the third pillar of the recovery and resilience plan (“Employment, skills and social coherence”) is based on the following main elements:

- The organization of training programs
- The creation of employment incentives and professional opportunities
- The development and upgrade of IT platforms
- The project management and supervision costs and the implementation of technical studies and awareness campaigns

1st element: Implementation of training programs

This element includes all the costs related to the organization and implementation of training programs concerning, inter alia, the vocational training as well as training programs for counselling and job coaching. More specifically, the costing of the training programs included in this component of the third pillar stems from the following parameters:

- Identification of the number of all the training personnel required (course instructors, coordinators, academic support, technical assistance, etc.) as well as the number of beneficiaries / trainees who are estimated to participate in each program
- Determination of the average time per training program (in hours, days or months) based on the specific training needs and targets
- Examination of the relative market rates and estimation of the unit costs corresponding to each trainer / trainee per hour or training session

- Calculation of the costs stemming from the required training material (e.g. books, guides, print or digital modules etc.) or any other additional costs needed for the implementation of each training program (e.g. possible travel expenses)

2nd element: Creation of employment incentives and professional opportunities

The second element targets to promote employment opportunities and job creation incentives through the provision of wage subsidies to encourage employers to hire employees by contributing to the labor costs as well as the provision of subsidies for the creation of new businesses (i.e. for freelancers). The cost of these schemes is calculated based on the following parameters:

- Identification of the number of beneficiaries who are estimated to fall under the relative subsidy schemes considering the overall objective and the relative eligibility criteria
- Identification of the average amount of subsidy per beneficiary on the basis of the relevant market rates and the average wage subsidy based on previous schemes
- Determination of the subsidy period per beneficiary and estimation of the total costs derived from each program

3rd element: Development and upgrade of relevant IT platforms

This element includes the estimated cost of all the required actions concerning the set-up of platforms, the IT systems upgrade as well as the digital apps development in the context of the reforms and investments which concern the promotion of job creation. The costing of the projects included in this element is based on the following parameters:

- Identification of the number of personnel needed for the development and upgrade of the relevant systems
- Determination of the amount of work needed for the completion of each action calculated in man months based on the average productive hours per month and per person
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

4th element: Project management, technical studies and awareness campaigns

The cost as regards the fourth element derives from the provision of the complementary services required which concern the project management and supervision services, the implementation of the required technical studies (i.e. current situation assessment studies or / and studies for the design, criteria and implementation of the project) and the organization of awareness campaigns (i.e. leaflets, press advertising, media campaigns etc.). In this context, the calculation of the relative costs concerning the aforementioned actions is based on the following:

- Identification of the number of the personnel needed for the provision of project management and supervision services and the technical experts needed for the implementation of the required studies
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit fees
- Calculation of the overall costs derived from the management, supervision and technical consultation services per project

- Estimation of the awareness campaigns costs based on the estimated average annual fees (considering the current market rates) and the total duration (in years) of each marketing campaign

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 3.2: Education, vocational education and training, and skills

1. Description of the component

Policy areas/domain: smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation; policies for the next generation, children and the youth, such as education and skills; digital transformation.

Summary: This component aims to increase long term employment and productivity through the enhancement of human capital. To that end, the component includes reforms at all levels of education, integrating new skills, new methodologies, evaluation of the system, autonomy and relevance/extroversion towards the local and international community and economy. Due to the increase in the economy's output, and as a result of its design, the component will also reduce inequalities, poverty and the risk of economic and social exclusion. For education, the component includes investments in digital transformation and digitalisation of all levels of education; as well as reforms in University education, enhancing research performance, quality of education (including direct relevance to the job market), and international visibility and extroversion, increasing graduates' prospects in the Greek and the European labour market. For skills, the component includes a flagship reform of the governance of upskilling provision which, based on an incentives-compatible remuneration system, promotes adoption and scaling up of best practices, resulting in systemic improvement of the lifelong learning system and labour market outcomes with a strong focus on the digital transformation and green transition. The component also includes reforms increasing the appeal and labour market effectiveness of vocational education training (VET) for young people; a forward-looking overhaul of the dual apprenticeship system; and a major reform (closely aligned with the reform on governance) of the contents and delivery of the skilling, reskilling and upskilling programmes offered by the public employment service (OAED). The reforms' benefits will be strengthened and accelerated by investments in digital systems, laboratory equipment for VET training units and OAED units, and a targeted programme of buildings' refurbishment/upgrade.

Objective: The overall aim of this component is to increase long term employment and productivity through the enhancement of human capital. The increase in the economy's output, as well as the design of the component's reforms will also reduce inequalities, poverty and the risk of economic and social exclusion. By achieving these objectives, the component addresses directly the RRF overarching objectives of increasing long term growth, job creation and economic and social resilience. A central theme in this component is reforms and investments relating to the European flagship of upskill and reskill. The component also includes significant investment in digitalisation of education of all levels, vocational education training and reforms in the reskilling and upskilling national system, thus promoting the European flagship initiative of Modernise

Link to European Flagships: *Modernise; Reskill and upskill*

Reforms and investments

Reforms

- **Reform 1:** A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System (ID:16913, COFOG 10.7)
- **Reform 2:** Upgrade Vocational Education and Training (ID:16934, COFOG 09.3)
- **Reform 3:** Strengthening the apprenticeship system (ID:16794, COFOG 10.7)
- **Reform 4:** Labour force skilling, reskilling and upskilling through a reformed training model for the working population (ID:16792, COFOG 09.5)
- **Reform 5:** Strategy for Excellence, Innovation and Modernization of Universities (ID:16289, COFOG 09.4)

Investments

- **Investment 1:** Digital transformation of Education (ID:16676, COFOG 09.2)
- **Investment 2:** Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools (ID:16933, COFOG 09.5)

Estimated sum of grants and loans: EUR 2,395 million, of which EUR 2,311 million (97%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Despite the existence of areas of excellence and good practice, and in spite of having an open, comprehensive and comparable in many ways to the European average education system, Greece presents certain gaps in the fields of education and training. Closing these gaps is of critical importance, as education and training are major determinants of human capital which, in turn, determines long-term employment and productivity. Through these channels, education and training impact significantly on long term growth, inclusiveness and general welfare. More specifically, gaps identified by European Semester documents as well as the Pissarides Committee Report, include the following:

- *Investment gap:* Largely as a result of the Greek debt crisis and the fiscal adjustment that took place over the past decade, investment in education and training remains below the EU average. This gap includes, but is not restricted, to investment in information and communications technology (ICT).
- *Skills gap:* According to metrics including the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) and the EU CEDEFOP centre, Greece scores below the EU average in various skills highly demanded in contemporary labour markets. Furthermore, Greek students, particularly from lower socio-economic background, achieve lower than average scores in the OECD's Program for International Student Assessment (PISA) rankings.
- *Digital skills gap:* Digital skills in particular are noticeably lower in Greece than in other EU countries. This holds both for the general population, as well as a significant portion of schools' teachers. There is also a digital skills gap among job applicants to high-demand sectors, including energy, information technology and communications, health, tourism and STEM.
- *Labour market mismatch:* The skills gaps discussed above result in mismatch between the (higher) skills demanded by employers and the (lower) skills offered by job-seekers, contributing to higher levels of unemployment.
- *Participation gaps.* Participation of young people in vocational education training (VET) is low compared to the EU average. The same holds true for participation in life-long learning/training programmes. Enterprises' willingness to finance their employees' participation in training programmes is low, and the same is true for demand by private-sector employees to participate in such programmes.

The gaps outlined above determine labour market outcomes: Despite its gradual reduction since 2014, unemployment in Greece remains excessively high, particularly among women, the young and the elderly. Greece presents a high proportion of long-term unemployed, contributing towards low participation rates (inactivity) and high dependency ratios. A significant number of university graduates are reported to hold jobs for which they are overqualified. Finally, low labour productivity (resulting from low skills) causes low wage levels, which on the one hand contributes to in-work poverty and low welfare and, on the other, discourages investment, particularly in innovative high-skill sectors.

b. Objectives

The overall aim of this component is to respond to the challenges discussed above by increasing long term employment and productivity through the enhancement of human capital. The increase in the economy's output, as well as the design of the component's reforms will also reduce inequalities, poverty and the risk of economic and social exclusion. By achieving these objectives, the component addresses directly

the RRF overarching objectives of increasing long term growth, job creation and economic and social resilience. A central theme in this component is reforms and investments relating to the European flagship of upskill and reskill. The component also includes significant investment in digitalisation of education of all levels, vocational education training and reforms in the reskilling and upskilling national system, thus promoting the European flagship initiative of Modernise. More specifically:

Reform 1: *A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System* puts in place a new governance providing an incentives-compatible framework of training provision in Greece. In full alignment with the proposals of the Pissarides Committee interim report, the reform envisages an outcomes-based skilling-reskilling system, providing the right incentives for trainees and training providers, as well as an error-proof certification framework. By linking the financial remuneration of providers to training and labour market outcomes, as well as ensuring high certification standards, the reform provides incentives promoting adoption and scaling up of best practices, resulting in systemic improvement of training and labour market outcomes. The reform is linked to an horizontal upskilling programme aiming to develop the skills -mainly digital and green skills and financial literacy- of the working age population and build a more sustainable workforce.

Reform 2: *Upgrade Vocational Education and Training for young people* aims at increasing the quality and market relevance of the Vocational Education Training (VET) system. More specifically, it pursues the transformation of VET into an appealing educational pathway, delivering qualifications that are relevant to labour market demand, boosting productivity and reducing unemployment, especially among young people. As per the suggestions of the Pissarides Committee interim report, this reform will help reduce the significant gap between the skills (including digital skills) demanded by employers and those offered by job-seekers, especially in sectors such as energy, information technology and communications, health, tourism and STEM.

Reform 3: *Strengthen the apprenticeship system* (also in line with the proposals made by the Pissarides' Committee report and closely aligned with Reform (2) above, aims at strengthening the apprenticeship system in order to facilitate entrance to the labour force. In particular, it reassesses, redesigns and updates the current apprenticeship system to align it with current labour market requirements. In the context of the reform, the curricula for the Apprenticeship Schools for about 40 specialties will be revised, modernised and aligned with labour market needs, in order to raise the level of skills provided to apprentices (including digital skills), in close cooperation with social partners and employers. Overall, the reform renders the apprenticeship system an integral part of the authorities' strategy towards upgrading VET and, ultimately, reducing youth employment.

Reform 4: *Labour force skilling, reskilling and upskilling through a reformed training model for the working population* aims at addressing the reskilling and upskilling needs of the working age population with a special focus on the unemployed population. In more detail, it provides a new framework for vocational training, targeted reskilling programmes (including green and digital skills) as well as expertise-driven career counselling services for the unemployed, thus aiming to make a significant contribution towards a more efficient, inclusive and resilient labour market. To the same end, it includes the reform of OAED (public employment service) operation, in ways that can be critical towards improving employment conditions for the unemployed and reducing the labour market's vulnerability to shocks. In the context of this reform, OAED is focusing on providing new training options for the unemployed, aiming to offer up-to-date training programs emphasising skills demanded by employers, with a particular emphasis on digital skills. On the other hand, close monitoring of the educational process and the graduates' pathway to the labour market, will provide data for the level of their adaptation to actual labour market needs. The reform also strengthens the on-the-job training aspect of the IEK (post-school) Training Centers.

Reform 5: Strategy for Excellence, Innovation and Modernization of Universities (substantially informed by the proposals of the Pissarides' Committee report) aims to enhance the research performance of Greek universities and the quality of education offered to students, including relevance to the job market and digital skills. Achieving these targets will have numerous positive spill-over effects across the Greek economy and society, by means of building a dynamic ecosystem of innovation, attracting qualified and distinguished academic staff and researchers and boosting economic competitiveness and growth. Moreover, it will contribute to the international competitiveness, positioning and visibility of Greek universities, thus contributing towards turning Greece into an international education hub, further enhancing the graduates' employment prospects, both within Greece but also the single European labour market

Investment 1: Digital transformation of Education, also motivated by the proposals included in the Pissarides' Committee report aims at connecting schools with the contemporary digital world and accelerating the respective digital transformation of education. The proposal focuses on the digital transformation of education in terms of content, infrastructure and services, embedded within a comprehensive reform strategy to update curricula, rationalise services and monitor educational outcomes. The ultimate aim is to contribute in a significant way to the achievement of an inclusive digital educational model in Greece, which is a prerequisite for building a resilient, extrovert Greek economy in the long term. Building on the foundations of the Open Source Software Strategy 2020-23, our goal is to 'Think Open', use and reuse solutions that have been tried on a global scale and join the global effort for incremental innovation through the sharing of knowledge and skills.

Investment 2: Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools The investment aims at the renewal and complete modernization of VET infrastructure throughout Greece with the supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools. This investment further strengthens the overall objectives described in the reform on Upgrading VET.

Link to the European Semester: The reforms and investments included in this component address Country Specific Recommendations provided in the context of the European Semester. In particular, they address CSR2 2019, recommending Greece to focus investment-related economic policy on (among others), skills and employability. They also address CSR3 2020, recommending focusing investment on the green and digital transition, in particular on (among others) very high capacity digital infrastructure and skills.

c. National strategic context

The reforms and investments included in the component are aligned with proposed policy choices set out in the "Pissarides Committee Report", the key reference document of Greece's Growth Strategy.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System (ID:16913)

Reform 2: Upgrade Vocational Education and Training (ID:16934)

Reform 3: Strengthening the apprenticeship system (ID:16794)

Reform 4: Labour force skilling, reskilling and upskilling through a reformed training model for the working population (ID:16792)

Reform 5: Strategy for Excellence, Innovation and Modernization of Universities (ID:16289)

b. Investments

Investment 1: Digital transformation of Education (ID:16676)

Investment 2: Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools (ID:16933)

4. Open strategic autonomy and security issues

Non applicable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

The component's proposed measures contribute to the green transition, by helping individuals and businesses develop more and better skills and to put them to use, by strengthening sustainable competitiveness, as set out in the European Green Deal. Skills, education and lifelong learning are crucial for long-term and sustainable growth, productivity and innovation and therefore a key factor for accomplishing the twin green and digital transitions of the economy. As these transitions show the need for an unparalleled shift in skill sets to reap their full potential, skills policies have an important role to play: green skills will be offered mainly through the VET system and the proposed upskilling and reskilling horizontal programme enabling both students and the working age population to move to a resource-efficient, circular, digitised and climate neutral economy. The upskilling programmes will promote green transition and support companies to focus on how to reduce depletion of natural resources and degradation of ecosystems caused by economic activity as well as on how to increase reliance on low-carbon energy supply to mitigate climate change. Apart from this, support will be given both for companies to move to the green economy while training providers will be required to provide the most relevant on-the-job circular economy upskilling and reskilling programmes, with specific considerations applying to training programmes that are responding to the customised needs of SMEs and social enterprises. The component encompasses the focus on the green economy and the skills development of both the working age population and students in Greece, in order to equip them with the skills and competencies that are of high demand.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The investments entailed under the present component (namely investments “Digital transformation of Education”, “Labour force skilling, reskilling and upskilling through a reformed training model- reform of OAED services”) will contribute to the development of e-learning and digitized training content in order to adapt to the digital transformation of the education and training system (Subproject 3 into the Labour force skilling, reskilling and upskilling through a reformed training model investment). Through the “New Strategy for Lifelong Skilling: Modernizing and Upgrading Greece’s Upskilling and Reskilling System” investment, the government aims to create life-long learning fast-paced upskilling programs, strengthen the digital skills and facilitate their adaptation to the operational changes brought by technology. Both the digital content and digital tools that will be developed, will be accessible by people with disabilities. The new upskilling and reskilling system will enable the Greek workforce (which is traditionally characterized by high unemployment rates) become more competitive with the most relevant digital skills responding to the emerging technologies and new ways of working. The digital dimension of the projects under this component aim to increase DESI rankings into the related fields.

8. Climate tracking and digital tagging

Title of reform or investment	Climate (%)	Digital (%)
Digital Transformation of Education (ID: 16676)	0%	100%
A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System- (ID:16913)	0%	100%
Green skills, jobs, economy - A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System (ID: 16913)	100%	0%
Strategy for Excellence in Universities & Innovation (ID:16289)	0%	0%
Upgrading Vocational Education and Training (ID: 16934)	0%	0%
Green Schools - Strengthening the Apprenticeship System (ID:16794)	100%	0%
Strengthening the apprenticeship system (ID: 16974)	0%	0%
Labour force skilling, reskilling and upskilling through a reformed training model- reform of OAED services (ID:16792)	0%	0%
Labor force skilling, reskilling and upskilling through a reformed training model (Vocational Education & Training Reform)- green skills (ID:16792)	100%	0%
Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools (ID: 16933)	0%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of this component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost
-
- It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost

parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The estimation of the costs as regards the investments and reforms included in the second component (“Education, vocational education and training, and skills”) of the third pillar of the recovery and resilience plan (“Employment, skills and social coherence”) is based on the following main elements:

- The building construction and renovation projects
- The organization of training programs
- The development and upgrade of IT platforms
- The project management and supervision costs and the implementation of technical studies and awareness campaigns

1st element: Building construction and renovation

In the first element the cost estimates of the investment and reforms envisaged in the second component of the third pillar are derived from the construction of new buildings, the old building renovation as well as the purchase of the required building equipment, concerning buildings promoting employment and inclusive social policies. In particular, the costing of all the actions included in the building construction and renovation considers the following parameters:

- Identification of the surface of the building construction or old building renovation required in each project (measured in square meters or in number of units)
- Determination of the amount of the new working equipment or transportation equipment needed to be purchased per type of building
- Estimation of the unit costs related to the construction or renovation of the relevant buildings (per square meter or unit) as well as the procurement of the required equipment (per unit)

- Calculation of the overall costs required per building and per investment, derived from the estimated construction or renovation costs (including also the cost for all the required electrical and mechanical installations) as well as the equipment procurement costs

2nd element: Implementation of training programs

This element includes all the costs related to the organization and implementation of training programs concerning, inter alia, the vocational training, the digital training on elderly people or people with special abilities as well as training programs for counselling and job coaching. More specifically, the costing of the training programs included in the third pillar of the recovery and resilience plan stems from the following parameters:

- Identification of the number of all the training personnel required (course instructors, coordinators, academic support, technical assistance, etc.) as well as the number of beneficiaries / trainees who are estimated to participate in each program
- Determination of the average time per training program (in hours, days or months) based on the specific training needs and targets
- Examination of the relative market rates and estimation of the unit costs corresponding to each trainer / trainee per hour or training session
- Calculation of the costs stemming from the required training material (e.g. books, guides, print or digital modules etc.) or any other additional costs needed for the implementation of each training program (e.g. possible travel expenses)

3rd element: Development and upgrade of relevant IT platforms

This element includes the estimated cost of all the required actions concerning the set-up of platforms, the IT systems upgrade as well as the digital apps development in the context of the reforms and investments which concern the promotion of job creation and education activities. The costing of the projects included in this element is based on the following parameters:

- Identification of the number of personnel needed for the development and upgrade of the relevant systems
- Determination of the amount of work needed for the completion of each action calculated in man months based on the average productive hours per month and per person
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

4th element: Project management, technical studies and awareness campaigns

The cost as regards the fourth element derives from the provision of the complementary services required which concern the project management and supervision services, the implementation of the required technical studies (i.e. current situation assessment studies or / and studies for the design, criteria and implementation of the project) and the organization of awareness campaigns (i.e. leaflets, press advertising, media campaigns etc.). In this context, the calculation of the relative costs concerning the aforementioned actions is based on the following:

- Identification of the number of the personnel needed for the provision of project management and supervision services and the technical experts needed for the implementation of the required studies
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit fees
- Calculation of the overall costs derived from the management, supervision and technical consultation services per project
- Estimation of the awareness campaigns costs based on the estimated average annual fees (considering the current market rates) and the total duration (in years) of each marketing campaign

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan Request

Non applicable.

COMPONENT 3.3: Improve resilience, accessibility and sustainability of healthcare

1. Description of the component

Policy areas/domain: Health, and economic, social and institutional resilience with the aim of, inter alia, increasing crisis preparedness and crisis response capacity

Summary: Healthcare in Greece has been heavily affected by the financial crisis and long-term problems in health services' provision have been revealed. To address these challenges, this component promotes a set of structural reforms aiming to enhance efficiency of the national health system, achieve equal access to health services and ensure the system's financial sustainability. The component's main building blocks include redesigning of the overall health system through effective organisational reforms; optimising the utilisation of financial resources and creating a quality framework; reforming the primary health system by introducing effective gatekeeping functions; and reorienting health services to prevention and promotion of health. These objectives will be supported by the digital transformation of health, along with the development of a patient centric health care system and investment in health infrastructure. Additionally, the component includes the reform of the clawback system and the acceleration of investments in the Health sector; the reform aims to reduce the clawback payments with R&D or investment expenses of pharmaceutical companies.

Overall, the component will contribute towards ensuring equal access to high quality health services, increased efficiency in services' provision, digital transformation of health services and financial sustainability of the healthcare system.

Objective:

The reforms and investments envisaged under this component will address challenges as outlined in the country-specific recommendations. They will also contribute to the digital and green transition and address challenges resulting from the transitions. And ultimately, they will contribute to effectively strengthen the resilience of the national health system and increase the system's capacity and accessibility.

Through a set of wide-ranging reforms and investments in selected areas of the healthcare system, the aim of this component is to improve resilience, increase accessibility and ensure the system's financial sustainability.

Link to European Flagships: 'Modernise'

Reforms

- **Reform 1.** Organisational Reforms in the Health System which will lead to financial resources optimisation and to the creation of a quality framework (ID:16756, COFOG 07.4)
- **Reform 2.** Reform of the Primary Health Care System which aims to reorganise its structure and redefine its role as a gatekeeper to secondary care (ID:16755, COFOG 07.4)
- **Reform 3.** Implementation of National Public Health Prevention Program "Spiros Doxiadis" (NPPSD) to promote prevention and upgrade the quality of life of the population (ID:16783, COFOG 07.4)
- **Reform 4.** Reform in the fields of mental health and addictions to ensure access to quality mental health services (ID:16820, COFOG 07.4)
- **Reform 5.** Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure to alleviate the negative effects of the ever-increasing clawback and permit the offset of a proportion of a company's investments with the amount owed in the form of clawback (ID:16816, COFOG 07.5)

Investments

- **Investment 1.** Digital transformation of Health (DigHealth) to optimise healthcare quality and patient safety and enhance system functionalities (ID:16752, COFOG 07.4)
- **Investment 2.** Establishment of Home Health Care & Hospital at Home systems to improve the quality of life of patients and enhance cost-effectiveness of the national healthcare system (ID:16753, COFOG 07.2)
- **Investment 3.** NHS Hospital Renovation and Infrastructure Upgrade to modernise the existing infrastructure of hospitals and supply with new medical equipment (ID:16795, COFOG 07.3)
- **Investment 4.** Establishment of a Radiotherapy Center at the "Sotiria" Thoracic Diseases Hospital of Athens which will help to meet the needs of cancer patients and the increased demand for Radiotherapy departments in the country (ID:16757, COFOG 07.3)
- **Investment 5.** Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki "Papanikolaou" to keep its services in line with the increased requirements of patient care (ID:16793, COFOG 07.3)

Estimated cost: EUR 1,486 million, of which EUR 1,486 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

According to the Country's Report (2020), Greece has significantly improved the efficiency of its healthcare system, through the implementation of reforms taking place since 2010, mainly focused on organisational dimensions. However, carrying out major changes coupled with extensive financial cuts, as a result of fiscal policy adjustments over the past decade, means the Greek Health system continues to face significant challenges, amplified by economic and social inequalities, demographic trends (aging population), high incidence of chronic degenerative diseases, as well as migration and refugee flows. The COVID-19 pandemic outbreak, to which our national health system has responded effectively, places the healthcare sector at the heart of overall recovery's strategy, increasing the necessity of responding in a timely and effective manner to pre-existing challenges.

In more detail, the main challenges addressed through the reforms and investments presented in this component are the following:

(i) Inefficiencies within the health system, creation of health budget deficits and increased waiting lists for patients. The redesign of the health system backed up by a new operating model is one of the requirements for reducing costs, providing a higher level of care, increased public approval rates for health services and an overall improved patient centric management of healthcare.

(ii) Primary Health Care: Lack of coordinated services, absence of a referral system, fragmented services, inequality in access.

(iii) Prevention: The Annual Health Report of the Organisation for Health and Economic Cooperation (State of Health in the EU: Greece Health Profile, 2019) shows the country's negative performance in matters related to the treatment of behavioral risk factors leading to chronic diseases, disability and in death. In particular, 42% of all deaths in Greece can be attributed to behavioral risk factors (compared to 39% in the EU), including smoking, dietary risks, alcohol consumption and low physical activity. The implementation of the National Public Health Prevention Program "Spiros Doxiadis" (NPP"SD") aims to improve these indicators by reducing or detecting incidence of disease, preventing disabilities and supporting individuals with complex problems.

(iv) Lack of digital services: Digital transformation will ensure the financial viability of the health system and enable more efficient ways towards organising and delivering healthcare services.

(v) Scarcity of modern health Infrastructure. Building, maintenance and expansion of hospital units along with the development of new Departments (e.g. Radiotherapy and Haematology departments) will contribute to upgrading of existing infrastructure and patients' access to innovative services.

b. Objectives

The COVID-19 pandemic crisis has vividly demonstrated the importance of a strong, resilient healthcare system in dealing with medical emergencies, as well as its critical role for the economy's resilience to shocks. Thereby, the health crisis should be used as a trigger for designing and operating a health care system that will be able to respond to public health emergencies, addressing long-standing challenges and ensuring equal access to affordable and quality health care. In light of the above, the investments and

reforms included in the present component aim to improve the resilience, accessibility and sustainability of Greek healthcare system by focusing on the following key strategic areas:

Reform 1. Organisational Reform in the Health System aims to rationalise the reimbursement of hospital medical procedures and create a framework that will ensure the establishment of reliable, quality procedures and performance measurements related to patient care, health needs and care delivery. Creating a national health map that records the demand and supply of services in the health system and establishes a framework for quality assessment will ensure greater transparency and efficiency in the health system.

Reform 2. Reform of the Primary Health Care System: This reform (featuring prominently in the Pissarides' Committee report) will respond to challenges related to access and inequalities. More specifically, this reform aims to upgrade the infrastructure and medical equipment of health centers and reorganise their structure by retraining staff to act effectively as first-line care. The design of the reform also emphasises the care of chronic diseases and palliative care. The reform of primary care interacts with secondary care (especially access to hospital care), will lead to improved health services for citizens and support the principle of equal access to health services and social cohesion.

Reform 3: Implementation of the National Public Health Prevention Program “Spiros Doxiadis” (NPPSD): This reform (also proposed by the Pissarides' Committee report) aims to upgrade the quality of life of the population with the creation of a very comprehensive system of prevention. Ultimately, the aim of the program is to reduce the risk factors for public health and the (indirect) relief of our hospital system.

Reform 4: Reform in the fields of mental health and addictions: This reform aims to ensure access to quality mental health services for specific populations suffering from mental illness and addiction, in order to prevent their marginalisation or institutionalisation. The project focuses on mental health services for patients with dementia and Alzheimer's disease, as well as patients with autism and patients in the age group of children, adolescents and young adults. Web applications and digitalisation of mental health services and actions to support addicts are also being developed.

Reform 5: Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure: The reform of the clawback system aims to drastically reduce the clawback in the medium-term, while at the same time allow the offset of clawback returns with clinical trial, R&D or investment expenditure by liable companies in the period 2021-2023.

Investment 1. Digital Transformation of Health (DigHealth): This investment (also proposed by the Pissarides' Committee report) will contribute towards the digital transformation of health services. The proposed project aims to optimise healthcare quality and patient safety with new innovative services, while at the same time help control healthcare spending by discouraging the overuse of products, pharmaceuticals, improve hospital management, patient experience, public procurement procedures and enhance system functionalities, interoperability and EOPYY's (National Organisation for the Provision of Healthcare Services) digital capacities.

Investment 2. Establishment of Home health care and Hospital at home services: This investment includes the establishment of a home care system for targeted groups of patients with chronic disabilities. Home care is combined with parallel organised support from health care units and concerns children, adolescents and adults with serious chronic health problems that cause long-term or permanent disabilities. This improves the quality of life of patients while freeing up resources for the National Health System.

Investment 3. NHS Hospital renovation and infrastructure upgrade: This investment introduces comprehensive interventions for the modernisation of the logistical infrastructure of hospitals throughout Greece, including the renovation of buildings and the supply of new medical equipment. The investment will empower the medical and nursing staff of the National Health System with the tools necessary to improve the quality and effectiveness of the provided health services.

Investment 4. Establishment of a Radiotherapy Center at the “Sotiria” Thoracic Diseases hospital of Athens: This investment responds to the increasing demand for Radiotherapy departments in the country. The establishment and construction of a Radiotherapy Center in Sotiria Hospital will help meet the needs of cancer patients.

Investment 5. Project for the construction of a building dedicated to cellular and Gene therapies and Hematology clinic laboratories within the General hospital of Thessaloniki “Papanikolaou”: This investment includes the creation of new buildings for the housing of the Laboratories of Cell and Genetic Therapy and Hematology Clinic at Papanikolaou Hospital, in order to keep its services in line with the increased requirements of patient care (malignant hematological diseases) and increasing demand for modern and technologies.

The proposed reforms and investments under this component champion the **European Flagship ‘Modernise’** by enabling access to modernised healthcare services.

Link to the European Semester: The reforms and investments included in this component address Country Specific Recommendations provided in the context of the European Semester. In particular, they address CSR2 2019, recommending Greece to focus investment-related economic policy on (among others), health. Reforms and investments included in this component also address CSR1 2020, recommending strengthening the resilience of the health system and ensuring adequate and equal access to health care.

c. National strategic context

The main objectives of the present component are aligned with the World Health Organisation's proposed "Health 2020" vision and the UN's "Sustainable Development 2030" goals, as well as with the National Strategy for Public Health, published in 2019. Moreover, the reforms and investments included in the component are fully aligned with the proposed policy choices set out in the “Pissarides Committee Report”, the key reference document of Greece’s Growth Strategy. In addition, the digital transformation of the health system is in line with the directions set out by the national Digital Transformation Bible.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Organisational Reforms in the Health System which will lead to financial resources optimisation and to the creation of a quality framework (ID:16756)

Reform 2. Reform of the Primary Health Care System which aims to reorganise its structure and redefine its role as a gatekeeper to secondary care (ID:16755)

Reform 3. Implementation of National Public Health Prevention Program “Spiros Doxiadis” (NPPSD) to promote prevention and upgrade the quality of life of the population (ID:16783)

Reform 4. Reform in the fields of mental health and addictions to ensure access to quality mental health services (ID:16820)

Reform 5. Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure to alleviate the negative effects of the ever-increasing clawback and permit the offset of a proportion of a company’s investments with the amount owed in the form of clawback (ID:16816)

b. Key investments

Investment 1. Digital transformation of Health (DigHealth) to optimise healthcare quality and patient safety and enhance system functionalities (ID:16752)

Investment 2. Establishment of Home Health Care & Hospital at Home systems to improve the quality of life of patients and enhance cost-effectiveness of the national healthcare system (ID:16753)

Investment 3. NHS Hospital Renovation and Infrastructure Upgrade to modernise the existing infrastructure of hospitals and supply with new medical equipment (ID:16795)

Investment 4. Establishment of a Radiotherapy Center at the “Sotiria” Thoracic Diseases Hospital of Athens which will help to meet the needs of cancer patients and the increased demand for Radiotherapy departments in the country (ID:16757)

Investment 5. Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki “Papanikolaou” to keep its services in line with the increased requirements of patient care (ID:16793)

4. Open strategic autonomy and security issues

Non applicable

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Reflecting the European Green Deal as Europe's sustainable growth strategy and the importance of tackling climate change in line with the Union's commitments to implement the Paris Agreement and the UN Sustainable Development Goals, this component is to contribute to the mainstreaming of climate action and environmental sustainability. To that end, the component's proposed measures contribute to the green transition, taking into account the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reform and investments will contribute to:

- Climate change mitigation by improving energy efficiency, except for power generation activities as referred to in Article 19(3);
- Climate change adaptation by substantially reduce the risk of the adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets;
- Pollution prevention and control linked to the energy consumption of the building stock by (a) preventing or, where that is not applicable, reducing pollutant emissions into air, water or land, other than greenhouse gasses; (b) improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on, human health and the environment or the risk thereof; (c) preventing or minimising any adverse impact on human health and the environment of the production, use or disposal of chemicals;
- Sustainable use and protection for water and marine resources by (a) protecting the environment from the adverse effects of urban and industrial waste water discharges, including from contaminants of emerging concern such as pharmaceuticals and microplastics, for example by ensuring the adequate collection, treatment and discharge of urban and industrial waste waters; (b) protecting human health from the adverse impact of any contamination of water intended for human consumption by ensuring that it is free from any micro-organisms, parasites and substances that constitute a potential danger to human health as well as increasing people's access to clean drinking water;
- Circular economy by (a) increasing durability, reparability, upgradability or reusability of products, in particular in designing and manufacturing activities; (b) increasing the recyclability of products, including the recyclability of individual materials contained in those products, inter alia, by substitution or reduced use of products and materials that are not recyclable, in particular in designing and manufacturing activities; (c) substantially reducing the content of hazardous substances and substitutes substances of very high concern in materials and products throughout their life cycle, in line with the objectives set out in Union law, including by replacing such substances with safer alternatives and ensuring traceability; (d) prolonging the use of products, including through reuse, design for longevity, repurposing, disassembly, remanufacturing, upgrades and repair, and sharing products; (e) preventing or reducing waste generation, including the generation of waste from the extraction of minerals and waste from the construction and demolition of buildings; (f) increasing preparing for the re-use and recycling of waste; (g) increasing the development of the waste management infrastructure needed for prevention, for preparing for re-use and for recycling, while ensuring that the recovered materials are recycled as high-quality secondary raw material input in production, thereby avoiding downcycling; (h) minimising the incineration of waste and avoids the disposal of waste, including landfilling, in accordance with the principles of the waste hierarchy; (i) avoiding and reducing litter;

- Protection and restoration of biodiversity and ecosystems by ensuring a sustainable land use and management, including adequate protection of soil biodiversity, land degradation neutrality and the remediation of contaminated sites.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

Digitalisation is seen as a key enabler to ensure the viability and sustainability of Greece's healthcare and long-term care systems. Within this context, the proposed investment entailed under the present component (*Digital Transformation of Health*) will contribute towards the digital transformation of health, aiming to enhance and accelerate the development and adoption of appropriate, accessible, affordable, scalable and sustainable digital healthcare (*DigHealth*) solutions that will prevent, detect, monitor and respond to epidemics and pandemics (such as COVID-19), and develop infrastructure and applications that will enable Greece to promote the health and wellbeing of its citizens, as well as effectively develop and utilize the skills of its medical and clinical workforce. The implementation of digital solutions in the health system can improve citizen's health and quality of life, increase their satisfaction from the use of public healthcare services, and enable more efficient ways towards organizing and delivering healthcare services. Furthermore, the digital transformation of the health system aims to enhance equal access to healthcare goods and services to uninsured citizens and other vulnerable categories of patients. Advanced digital health solutions will enhance the quality of services and ensure equitable and timely access to healthcare and help to control healthcare spending through efficient hospital management and public procurement procedures, discouraging the overuse of products (especially pharmaceuticals), thus allowing an overall improvement in the performance of the healthcare system. Such initiatives are expected to transform the Greek growth model by providing a "digital reboot" and significantly boost annual GDP growth during a course of 5-10 years.

By comprising 14% digital expenditures (see Table 1 below) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU.

Title of reform or investment	Climate (%)	Digital (%)
Organisational Reforms in the Health System (ID: 16756)	0%	0%
Reform of the Primary Health Care System (ID: 16755)	40%	0%
Green investments - Reform of the Primary Health Care System (ID: 16755)	0%	0%
Implementation of National Public Health Prevention Program "Spiros Doxiadis" (ID: 16783)	0%	0%
Reform in the fields of mental health and addictions (ID: 16820)	0%	0%
Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure (ID:16816)	0%	0%
Digital transformation of Health (ID: 16752)	0%	100%
Establishment of Home Health Care & Hospital at Home systems (ID: 16753)	0%	0%
NHS Hospital Renovation and Infrastructure Upgrade (ID: 16795)	40%	0%
Establishment of a Radiotherapy Center at the "Sotiria" Thoracic Diseases Hospital of Athens (ID: 16757)	0%	0%
Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki "Papanikolaou" - Health infrastructure(ID: 16793)	0%	0%
Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki "Papanikolaou"- Construction of new energy efficient buildings (ID: 16793)	40%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation.

Each one of the investments and reforms of the *Health, and economic, social and institutional resilience with the aim of, inter alia, increasing crisis preparedness and crisis response capacity* component were initially assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that the reform of the Primary Health Care System required a substantive DNSH assessment. The assessment showed that none of these measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices

10. Milestones, targets and timeline

See relevant milestones chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms

Detailed information with respect to the anticipated outcome of the investments and reforms

Detailed description on how the investment and reforms are implemented (means of implementation)

Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The estimation of the costs as regards the investments and reforms included in the third component (“Improve resilience, accessibility and sustainability of healthcare”) of the third pillar of the recovery and resilience plan (“Employment, skills and social coherence”) is based on the following main elements:

- The building construction and renovation projects
- The organization of training programs
- The development and upgrade of IT platforms
- The project management and supervision costs and the implementation of technical studies and awareness campaigns

1st element: Building construction and renovation

In the first element the cost estimates of the investment and reforms envisaged in the third pillar are derived from the construction of new buildings, the old building renovation as well as the purchase of the required building equipment, concerning hospitals or healthcare centers. In particular, the costing of all the actions included in the building construction and renovation considers the following parameters:

- Identification of the surface of the building construction or old building renovation required in each project (measured in square meters or in number of units)
- Determination of the amount of the new working equipment (e.g. activity kits) or transportation equipment needed to be purchased per type of building
- Estimation of the unit costs related to the construction or renovation of the relevant buildings (per square meter or unit) as well as the procurement of the required equipment (per unit)

- Calculation of the overall costs required per building and per investment, derived from the estimated construction or renovation costs (including also the cost for all the required electrical and mechanical installations) as well as the equipment procurement costs

2nd element: Implementation of training programs

This element includes all the costs related to the organization and implementation of training programs regarding healthcare activities. More specifically, the costing of the training programs included in the third pillar of the recovery and resilience plan stems from the following parameters:

- Identification of the number of all the training personnel required (course instructors, coordinators, academic support, technical assistance, etc.) as well as the number of beneficiaries / trainees who are estimated to participate in each program
- Determination of the average time per training program (in hours, days or months) based on the specific training needs and targets
- Examination of the relative market rates and estimation of the unit costs corresponding to each trainer / trainee per hour or training session
- Calculation of the costs stemming from the required training material (e.g. books, guides, print or digital modules etc.) or any other additional costs needed for the implementation of each training program (e.g. possible travel expenses)

3rd element: Development and upgrade of relevant IT platforms

This element includes the estimated cost of all the required actions concerning the set-up of platforms, the IT systems upgrade as well as the digital apps development in the context of the reforms and investments which concern healthcare activities. The costing of the projects included in this element is based on the following parameters:

- Identification of the number of personnel needed for the development and upgrade of the relevant systems
- Determination of the amount of work needed for the completion of each action calculated in man months based on the average productive hours per month and per person
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

4th element: Project management, technical studies and awareness campaigns

The cost as regards the fourth element derives from the provision of the complementary services required which concern the project management and supervision services, the implementation of the required technical studies (i.e. current situation assessment studies or / and studies for the design, criteria and implementation of the project) and the organization of awareness campaigns (i.e. leaflets, press advertising, media campaigns etc.). In this context, the calculation of the relative costs concerning the aforementioned actions is based on the following:

- Identification of the number of the personnel needed for the provision of project management and supervision services and the technical experts needed for the implementation of the required studies
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit fees
- Calculation of the overall costs derived from the management, supervision and technical consultation services per project
- Estimation of the awareness campaigns costs based on the estimated average annual fees (considering the current market rates) and the total duration (in years) of each marketing campaign

12. Loan request

Non applicable.

COMPONENT 3.4: Increase access to effective and inclusive social policies

1. Description of the component

Policy areas/domain: Social and territorial cohesion; social and institutional resilience; policies for the next generation, children and the youth, such as education and skills.

Summary: This component includes reforms and investments targeted towards some of the most vulnerable population groups of the country, with the overarching aim of providing equal opportunities for all, irrespective of gender, ethnicity, sexual orientation, age, disability, and other characteristics. The component echoes one of the three priorities of Europe 2020 strategy, namely inclusive growth, and its key policy component on poverty alleviation. The component aims to ensure economic, social and territorial activation and inclusion conducive to growth; and, also ensure, that the benefits of growth are widely shared, thus reducing poverty and inequalities. Moreover, the component mitigates the unprecedented adverse effects of the pandemic on the most vulnerable groups of the population.

The main paths through which the objectives of the component will be achieved include: (a) social benefits optimisation; (b) reform of early childhood care, including special interventions for children with disabilities, cognitive and developmental disorders; (c) enhancement of structures providing social assistance services and the promotion of actions targeted towards labour market (re)integration of the most vulnerable population groups; (d) digital transformation of the social protection system; and (e) diversity training in both the public and the private sector to fight discrimination of all forms; (e) enhancement of structures that can actively support female labour market participation.

Objectives: The component's overarching aim is to provide equal opportunities for all, irrespective of gender, ethnicity, sexual orientation, age, disability, and other characteristics. To that end, it includes reforms and investments whose target is to:

1. Ensure the social inclusion of vulnerable population groups by means of (a) promoting economic activation, through the provision of training, education, and apprenticeship opportunities; and (b) ensuring access to effective and high-quality social services.
2. Reduce poverty, inequality, and the risk of social and economic exclusion through the provision of effective safety nets, comprising of new and updated quality social services
3. Put in place early childhood interventions to secure children's and young families' potential and economic/social prospects.
4. Mitigate the risk of female unemployment due to the shortage of childcare options for working parents and especially working mothers.

These objectives are in line with the recommendations provided by the European Commission to Greece in the context of the 2019 and 2020 Country Specific Recommendations (CSRs), recommending enhancing access to inclusive, affordable and high quality social services, supporting the most vulnerable population groups and improving their labour market participation, reducing skill mismatches, increasing quality and labour market relevance of education and training. Furthermore, as they mostly focus on investment-related economic policy, they complete and complement already initiated reforms of social safety nets, having a poverty and inequality-reducing rationale. They also echo the European Flagship initiatives on 'Reskill/upskill' and 'Modernise' and they are fully in line with the Pissarides' Committee report, underpinning Greece's new Growth Strategy. Finally, as mentioned in the 2020 Country Report for Greece, although the country has improved on most indicators of the Social Scoreboard supporting the European Pillar of Social Rights, challenges in the fields of gender employment gap, income inequality and digital skills remain significant. This component addresses these challenges in an efficient and novel way.

Link to European Flagships: Modernise; Reskill and upskill

Reforms and investments

Reforms

- **Reform 1:** Social benefits optimisation (ID:16726)
- **Reform 2:** Child Protection (ID:16919, COFOG 10.4)
- **Reform 3:** Disability (ID:16904, COFOG 10.1)

Investments

- **Investment 1:** Social integration (ID:16922, COFOG 10.9)
- **Investment 2 (including a strong element of digital reform):** Digital transformation of the social support system (ID:16925, COFOG 10.8)
- **Investment 3:** Diversity awareness (ID:16685, COFOG 10.7)
- **Investment 4:** Creation of childcare centers within large companies (ID:16945, COFOG 10.4)
- **Investment 5 (including a strong element of digital reform):** Digitalisation of the migration and asylum system (ID:16763, COFOG 10.9)
- **Investment 6:** Promote integration of the refugee population into the labour market (ID:16688, COFOG 10.9)

Estimated sum of grants and loans: EUR 611 million, of which EUR 611 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Despite efforts to increase the social and economic inclusion of vulnerable groups of the population via training and education opportunities and access to high-quality social services, Greece continues to compare unfavourably with its European peers in many relevant indexes, including poverty and risk of social and economic exclusion (particularly for children and working-age people); unemployment, (particularly for women, the young and the elderly), participation rates for the same groups; and dependency ratios. More specifically, the main challenges can be summarised as follows:

With respect to the social inclusion of vulnerable population groups via training and education opportunities and access to high-quality social services:

- *Women's participation in the labour market.* Women's employment rate is one of the lowest in the EU, especially for the younger (15-24) and older (50-64) age groups, as highlighted by the 2019 European Semester Report and the Pissarides' Committee report.
- *Labour market (re)integration of guaranteed minimum income (GMI) recipients.* Being regularly monitored in the context of the post-programme framework, the national roll-out of the GMI's 3rd pillar (i.e. reintegration in the labour market) constitutes a major challenge. This impacts upon the overall objective of the scheme, which is to restrict beneficiaries' dependency from welfare support and prevent their entrapment in poverty.
- *Upskilling and reskilling.* At the end of 2018, one third of Greek companies reported that they find it difficult to fill vacancies, with lack of appropriate skills being the most common reason. In relation to this challenge, the European Council suggested that 'Greece must increase the effectiveness of the policies that lead to the labour market inclusion, and specifically the programmes for vocational training' (Council Recommendation on the 2020 National Reform Programme). This generic challenge also applies, and is even more, pronounced, in the case of vulnerable population groups.
- *Inclusion of persons with disabilities.* In recent years, Greece has introduced major legislative reforms seeking to put in place a new framework promoting the social and economic inclusion of persons with disabilities. However, the latter still face a shortage in the variety and availability of infrastructure and social services, with those with high-level support needs facing the biggest challenges.

- *Inclusion of senior citizens.* Despite recent improvements, the vast majority of senior citizens continue to be unfamiliar with the use of new information and communication technologies, which poses serious limitations to their degree of social autonomy and everyday lives.
- *Labour market integration of recognised refugees and holders of subsidiary protection.* The employment rate of non-EU nationals legally residing in Greece is structurally lower than that of Greek nationals. In the 2020 Report of the EC for Greece and the 2020 CSR (recital 20) special emphasis is given to the integration of this vulnerable group, especially in the wake of the outbreak of the Covid-19 pandemic.
- *Social integration of Roma.* In 2011 the European Commission adopted the EU Framework for National Roma Integration Strategies which focuses on four key areas: education, employment, healthcare and housing. Roma in Greece consist around 1,5% of the total population. Living in almost all the regions of the country, Roma communities experience shortages relating to conditions of living, potable water, energy and infrastructure, organic and/or functional illiteracy as well digital illiteracy.

With respect to digitalisation:

- Lack of digitalised services and of a comprehensive IT platform regarding the business process and provision of benefits in cash and in kind. The lack of digitalisation also severely affects persons with disabilities that currently need to submit the same supporting documents to different bodies on a regular basis.
- Lack of digitised services regarding migration and asylum system, that affects negatively the immediate processing of the asylum applications, the personalized service of the Asylum seekers regarding the course of their application and the overall automation of the relevant services and procedures.

With respect to income inequality and poverty:

- *Inequality:* According to the 2019 CSR for Greece ‘whilst reforms have been initiated, Greece is characterised by high income inequality’ (recital 14). Moreover, the 2020 CSR states that ‘The COVID-19 crisis risks [will be] exacerbating once again the social situation of large parts of the population and increasing income inequality’ (recital 20).
- *Poverty:* According to the 2020 OECD Survey for Greece, ‘Despite improvements in recent years, poverty rates among the young and families with children remain high. [...] The Covid-19 crisis makes the need to continue modernising Greece’s social protection system manifest so as to better target anti-poverty programmes to people in need and significantly strengthen retraining schemes.’

With respect to early childhood interventions:

- According to the 2020 OECD Survey for Greece, participation in early childhood education lags other countries, despite the fact that compulsory pre-school education has been extended. Moreover, the country does not have a centralised public system of early childhood interventions; such programmes are currently only developed and implemented via the private sector and non-government organisations (NGOs). As a result, the rates of early diagnosis of mental and neurological disabilities remain very low. Furthermore, the Pissarides’ Committee Report finds that the country lacks a complete childcare and development programme that starts from the 2nd trimester of pregnancy and goes up to the beginning of primary school.

b. Objectives

The overarching aim of this component is to provide equal opportunities for all, irrespective of gender, ethnicity, sexual orientation, age, disability, and other characteristics. It includes reforms and investments aiming to increase access to effective and inclusive social policies and mitigate the adverse social impact of the Covid-19 crisis. These objectives are in line with the recommendations of the European Commission included in the 2019 and 2020 CSRs (enhancing access to inclusive, affordable and high quality social services, supporting the most vulnerable population groups and improving their labour market participation, reducing skill mismatches, increasing quality and labour market relevance of education and training). They also echo the Europe 2020 strategy on poverty alleviation, the European Flagship initiatives on 'Reskill/upskill' and 'Modernise' and are fully in line with the National Reform Programme of the country. Finally, as also mentioned in the 2020 Country Report for Greece, although the country has improved on most indicators of the Social Scoreboard supporting the European Pillar of Social Rights, challenges in the fields of gender employment gap, income inequality and digital skills remain significant. The objective of this component is to tackle these challenges in an efficient and novel way.

An important aspect of the proposed projects is their preventive effect: The components' contents aim to prevent institutionalisation and social exclusion of vulnerable population groups and they improve the functionality of people with disabilities, so that they ultimately limit the pool of people living under a regime of limits-imposing dependency, preventing empowerment and hindering self-development. The proposed actions do not create new public structures with high maintenance and payroll costs, which would require ongoing funding after the end of the program. Instead, mainly existing structures are utilised. The suggested reforms and infrastructural improvements also have a permanent character. Thus, the actions have low sunk costs and high long-term returns, both individually and socially.

The objectives pursued by the contents of this component as a whole include the following:

- Increasing the impact of social transfers on reducing the risk of poverty.
- Reducing the poverty rate of vulnerable population groups.
- Ensuring that GMI recipients do not fall into poverty traps.
- Upgrading the quality of social services through protocols, training, certifications, and the enhancement of digitalisation.
- Reducing labour market barriers towards the most vulnerable population groups
- Combating inequalities both at the national and territorial level, paying special attention to geographic disparities.
- Improving the prospects for women's participation and integration into the labour market.
- Providing families with high-quality early childcare options.
- Further enhancing the smooth return of the mothers into work by providing them childcare options of high quality, by developing the functioning of childcare centres and expanding them across the country and by creating childcare units within companies.
- Establishing a comprehensive curriculum aiming at the cognitive development of children from 3 months to 4 years.
- Promoting the integration of the refugee population into the labour market via synchronising their skills with the needs of the market and participating in traineeship and apprenticeship programmes.
- Enhancing independent living, social inclusion, employability, and deinstitutionalisation of the disabled and adolescent children with low probabilities of family rehabilitation.

- Enhancing the future employability of children living in closed protection structures.
- Placing minors with severe disabilities and/or severe mental disorders in the care of professional foster carers.
- Increasing the rate of early diagnosis of mental and neurological disabilities and subsequent interventions.
- Addressing the leakage of social benefits towards non-eligible individuals due to tax evasion and fraud.

On an individual basis, the projects included in the component aim at the following objectives:

Reform 1. *Social benefits optimisation* aims at reducing the misallocation of the social budget's resources.

Reform 2. *Child Protection* aims to enhance child protection in a multiphase system. With implementable, actionable and results-oriented reforms that are designed with a special focus on (a) newborn, infants and toddlers, (b) adolescents and (c) minors with severe disabilities and/or severe mental disorders, the support provided to children can enhance their cognitive and mental development, successfully address stigma and discrimination and further enhance their living in a supported independent scheme or under be placed in a foster care. The projects can be defined as an early childhood developmental intervention and reform and a deinstitutionalization policy.

Reform 3. *Disability* aims to enhance social inclusion, independent living, employability and early childhood intervention for persons and children with disabilities. All these actions fulfil a series of relative recommendations of the U.N Convention on the Rights of Persons with Disabilities (UNCRPD) and develop both the social welfare and the economy. The submitted proposals are strongly connected with Ministerial priorities and policies correlated with the National Action plan for the Rights of Person with Disabilities and the National Strategy on Deinstitutionalization. Complementary to these actions will be a pilot project for the new functionality-based disability assessment process, in line with EU best practices, which is already designed, using funds of the ESF. All of them are important elements enhancing the disability policy for the upcoming years and are expected to shape attitudes, fight stereotypes and eliminate barriers towards inclusiveness and equality for all.

Investment 1. *Social integration of most vulnerable groups* primarily targets main target GMI recipients, rough sleepers or homeless shelters residents, Roma, people with disabilities, the elderly, children with developmental disorders and households living in extreme poverty conditions. It aims to boost their employability according to the specific skills required to participate in the labour market, restrict their dependency from welfare support and prevent their entrapment in poverty.

Investment 2. (including a strong element of digital reform): *Digital transformation of the social support system* further rationalises the social assistance benefit system through: (a) simplifying access to social assistance schemes; (b) increasing efficiency of the fraud and control cash benefits system; (c) collecting comprehensive information on policies implemented at the national and local level; (d) cross-checking automatically programmes' criteria fulfilment; (e) reducing red-tape for both social assistance applicants and workers; (f) saving resources from the maintenance of different information systems; (g) creating a tool for monitoring and planning social policies with social and geographical characteristics; (h) developing/further evolving the digital skills of people working in the public welfare entities. This will ensure that even in periods of crisis, like the lockdown during the COVID-19 pandemic, citizens will keep having access to services.

Investment 3. *Diversity awareness* aims at: (a) development and delivery of diversity training programmes for employees in both the private and public sector with the aim of fighting discrimination against all dimensions in the workplace; (b) development of a concrete mechanism to collect appropriate

statistical data relating to equality and discrimination, allowing the better monitoring of progress and public policy based on facts. The role of the Equality Observatory - an operating arm of the Ministry of Labour and Social Affairs - will be enhanced in order to produce comprehensive reports assessing the state of equal opportunities; and © development of a mechanism for the certification of and an award system for enterprises/organisations promoting good diversity and inclusion practices.

Investment 4. *Creation of childcare units within large companies* provides funding for the creation and equipment of childcare units in the premises of larger companies, creating a bundle of support that enhances the attractiveness of the investment to the relevant stakeholders and companies. It aims to enhance work-life balance and promote measures that actively support the employment of young parents.

Investment 5. *Digitalisation of the migration and asylum system* will result in significantly better quality of services to the refugee population and asylum seekers, as it aims to realise the (a) unified management of the whole life cycle of the procedures related to refugee flows, from the First Reception to the completion of the examination of an Asylum case; (b) integrated collection of information in real time by all involved authorities for real-time tracking; (c) secure and valid identification of persons entering the country, through procedures involving the receipt of biometric data and the issuance of a "smart" ID card; (d) a Web & mobile app to interact and communicate with the refugees

Investment 6: *Promote integration of the refugee population into the labour market* aims to promote the integration of the refugee population into the labour market. This will be achieved by: a) further developing and sustaining a lasting, effective, flexible and tailored to the needs of beneficiaries and enterprises, mechanism of job integration, and b) implementing complementary and interconnected activities, regarding both appropriate preparation of refugees and structured cooperation with firms and other stakeholders. The project will be totally aligned with the draft Partnership Agreement (2021 – 2027) and will be used complementary with other EU funds and projects.

Link to the European Semester: The reforms and investments included in this component address Country Specific Recommendations provided in the context of the European Semester. In particular, they address CSR2 2019, recommending Greece to focus investment-related economic policy taking into account the need to ensure social inclusion. They also address CSR2 2020, recommending mitigating the employment and social impact of the crisis including (among others) ensuring effective activation support. They also address CSR3 2020, recommending focusing investment on the green and digital transition, in particular on (among others) very high capacity digital infrastructure and skills.

c. National strategic context

The reforms and investments included in the component are aligned with policy proposals set out in the Pissarides Committee Report, the key reference document of Greece's Growth Strategy.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: Social benefits optimisation (ID:16726)

Reform 2: Child Protection (ID:16919)

Reform 3: Disability (ID:16904)

b. Investments

Investment 1: Social integration (ID:16922)

Investment 2: Digital transformation of the social support system (ID:16925)

Investment 3: Diversity awareness (ID:16685)

Investment 4: Creation of childcare centers within large companies (ID:16945)

Investment 5 : Digitalisation of the migration and asylum system (ID:16763)

Investment 6: Promote integration of the refugee population into the labour market (ID:16688)

4. Open strategic autonomy and security issues

Non applicable

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Non applicable.

7. Digital dimensions of the component

The objective of this investment, which has also a strong element of digital reform, is to further rationalise the social support system through: (a) simplifying access to social assistance schemes; (b) increasing efficiency of the fraud and control cash benefits system; (c) collecting comprehensive information on policies implemented at the national and local level; (d) cross-checking automatically programmes' criteria fulfilment; (e) reducing red-tape for both social assistance applicants and workers; (f) saving resources from the maintenance of different information systems; (g) creating a tool for monitoring and planning social policies with social and geographical characteristics; (h) developing/further evolving the digital skills of people working in the public welfare entities. These technological advancements can help improve the delivery of social services and ultimately help to improve the quality of life for those who use them.

8. Climate tracking and digital tagging

Title of reform or investment	Climate (%)	Digital (%)
Disability (ID: 16904)	0%	0%
Child Protection (ID: 16919)	0%	0%
Social Benefits Optimisation (ID:16726)	0%	0%
Digital Transformation of the Social Support System (ID : 16925)	0%	100%
Social Integration (ID : 16922)	0%	0%
Diversity Awareness (ID: 16685)	0%	0%
Creation of childcare units within large companies (ID: 16945)	0%	0%
Promote integration of the refugee population into the labour market (ID: 16688)	0%	0%
Digitalisation of the Migration and Asylum system (ID: 16763)	0%	100%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of this component were assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description on how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project is achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis was ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The estimation of the costs as regards the investments and reforms included in the fourth component (“Increase access to effective and inclusive social policies”) of the third pillar of the recovery and resilience plan (“Employment, skills and social coherence”) is based on five main elements:

- The building construction and renovation projects
- The organization of training programs
- The creation of employment incentives and professional opportunities
- The development and upgrade of IT platforms
- The project management and supervision costs and the implementation of technical studies and awareness campaigns

1st element: Building construction and renovation

In the first element the cost estimates of the investment and reforms envisaged in the third pillar are derived from the construction of new buildings, the old building renovation as well as the purchase of the required building equipment promoting employment and inclusive social policies (e.g. childcare centers, accessibility infrastructure for persons with disabilities etc.). In particular, the costing of all the actions included in the building construction and renovation considers the following parameters:

- Identification of the surface of the building construction or old building renovation required in each project (measured in square meters or in number of units)
- Determination of the amount of the new working equipment (e.g. activity kits) or transportation equipment (e.g. van vehicles) needed to be purchased per type of building
- Estimation of the unit costs related to the construction or renovation of the relevant buildings (per square meter or unit) as well as the procurement of the required equipment (per unit)

- Calculation of the overall costs required per building and per investment, derived from the estimated construction or renovation costs (including also the cost for all the required electrical and mechanical installations) as well as the equipment procurement costs

2nd element: Implementation of training programs

This element includes all the costs related to the organization and implementation of training programs concerning, inter alia, the digital training on elderly people or people with special abilities as well as training programs for counselling and job coaching. More specifically, the costing of the training programs included in the third pillar of the recovery and resilience plan stems from the following parameters:

- Identification of the number of all the training personnel required (course instructors, coordinators, academic support, technical assistance, etc.) as well as the number of beneficiaries / trainees who are estimated to participate in each program
- Determination of the average time per training program (in hours, days or months) based on the specific training needs and targets
- Examination of the relative market rates and estimation of the unit costs corresponding to each trainer / trainee per hour or training session
- Calculation of the costs stemming from the required training material (e.g. books, guides, print or digital modules etc.) or any other additional costs needed for the implementation of each training program (e.g. possible travel expenses)

3rd element: Creation of employment incentives and professional opportunities

The third element targets to promote employment opportunities and job creation incentives through the provision of wage subsidies to encourage employers to hire employees by contributing to the labor costs as well as the provision of subsidies for the creation of new businesses (i.e. for freelancers). The cost of these schemes is calculated based on the following parameters:

- Identification of the number of beneficiaries who are estimated to fall under the relative subsidy schemes considering the overall objective and the relative eligibility criteria
- Identification of the average amount of subsidy per beneficiary on the basis of the relevant market rates and the average wage subsidy based on previous schemes
- Determination of the subsidy period per beneficiary and estimation of the total costs derived from each program

4th element: Development and upgrade of relevant IT platforms

This element includes the estimated cost of all the required actions concerning the set-up of platforms, the IT systems upgrade as well as the digital apps development in the context of the reforms and investments which concern the promotion of job creation. The costing of the projects included in this element is based on the following parameters:

- Identification of the number of personnel needed for the development and upgrade of the relevant systems
- Determination of the amount of work needed for the completion of each action calculated in man months based on the average productive hours per month and per person
- Examination of the market rates with respect to the relative cost per man month and calculation of the cost derived from the total working time of the personnel

5th element: Project management, technical studies and awareness campaigns

The cost as regards the fifth element derives from the provision of the complementary services required which concern the project management and supervision services, the implementation of the required technical studies (i.e. current situation assessment studies or / and studies for the design, criteria and implementation of the project) and the organization of awareness campaigns (i.e. leaflets, press advertising, media campaigns etc.). In this context, the calculation of the relative costs concerning the aforementioned actions is based on the following:

- Identification of the number of the personnel needed for the provision of project management and supervision services and the technical experts needed for the implementation of the required studies
- Determination of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit fees
- Calculation of the overall costs derived from the management, supervision and technical consultation services per project
- Estimation of the awareness campaigns costs based on the estimated average annual fees (considering the current market rates) and the total duration (in years) of each marketing campaign

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

Part 2: Description of reforms and investments, Private Investments and Transformation of the economy

COMPONENT 4.1: Making taxes more growth friendly and improving tax administration and tax collection

1. Description of the component

Policy areas/domain: Economic and institutional resilience, that aim to, inter alia, increase crisis preparedness and crisis response capacity, by improving public service continuity, the effectiveness of public administration and national systems, including minimising the administrative burden

Summary: This is a particularly critical component for the ongoing fight against tax evasion, and seeks to achieve the above through targeted reforms and investment.

On the tax policy side, it includes: the complete codification of tax legislation, with the aim of increasing transparency in the wider tax framework, a new framework aiming to combat smuggling in products subject to excise duties (tobacco, alcohol and energy), the adoption of additional measures and incentives to further increase electronic transactions and implementation of a digitised and automatic VAT electronic refund procedure. In addition, and in conjunction with Pillar 2, we foresee the introduction of new-technology cash registers across the country. Last, but not least, an ambitious project to implement artificial intelligence in the design of tax audits is proposed.

On the tax administration side, the digitalisation of the Independent Authority for Public Revenue needs to continue. In that regard, a total of 14 sub projects have been proposed.

Objective:

The component is in full alignment with the European Commission's guidelines focusing on better revenue management, as well as significant strengthening of public tax authorities.

Its goal is, through a set of wide-ranging reforms as well as investments on the digital transformation of the Greek tax authorities via system upgrades and in general modernisation of methods and practices, to enhance the efficiency, effectiveness and equality of all taxpayers by increasing the efficiency of tax revenues and enhancing fiscal compliance. At the same time, it seeks to reduce the administrative burdens of the tax authorities.

The priorities and objectives of the component are in full alignment with the recommendations of the European Commission to Greece, in the framework of the Country Specific Recommendations (CSR) of 2019 and 2020 regarding the enhancing and continuation of actions related to the strengthening of the country's revenue management, as well as the strengthening of the public and fiscal administration to fight corruption and tax evasion and avoidance. The intended interventions, being part of a broader strategy, will lay the foundations for achieving the country's sustainable economic development for the future.

Reforms

- **Reform 1.** Codification and simplification of tax legislation, rules and procedures (ID: 16643) [COFOG: 01.1]
- **Reform 2.** Promoting the acceleration of VAT refunds (ID: 16610)
- **Reform 3.** New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy) (ID: 16656)
- **Reform 4.** Online cash registers & POS (ID: 16614)
- **Reform 5.** Adoption of measures and incentives to increase electronic transactions (ID:16616) [COFOG: 01.1]
- **Reform 6.** Super - depreciation of expenses on green economy, energy and digitisation (ID: 16863)
- **Reform 7.** Digital Transformation of the Tax Audits (ID: 16611) [COFOG: 01.1]

Investments

- **Investment 1.** Digital Transformation of the Tax and Customs Administration (ID: 16291) [COFOG: 01.6]

Estimated cost: EUR 215 million, of which EUR 187 million (87%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Greece has undertaken major reforms in recent years aiming to remedy longstanding weaknesses in tax collection and compliance. These reforms have increased the efficiency of tax administration and have significantly contributed to the attainment of healthy public finances and robust fiscal performance. They have also been marked by the establishment of a strong, independent authority (IAPR) that is responsible for revenue collection and administration, which has led to improvements in collection and compliance. However, challenges remain in several areas related to the streamlining of the legal framework, the modernisation of the tax administration, the reduction of administrative burden and the increase in the fairness of the tax system.

Greece has received both in 2019 and in 2020 a Council recommendation on the continuation and completion of reforms in line with post-programme commitments, including areas related to strengthening revenue administration, as well as to the modernisation of public administration and the continued fight against corruption. Moreover, in 2020, Greece has received a recommendation from the Council calling for improving the efficiency and digitalisation of the public administration. The main challenges that need to be addressed include the following:

Codification of the tax legislative framework: The complexity of tax legislation provisions and the lack of codification often lead to difficulties in interpretation and application, creating legal uncertainty and increasing the burden for the judicial system. Moreover, these phenomena significantly increase the administrative burden for individuals and enterprises, reduce the effectiveness of revenue collection procedures, and might also act as a disincentive to investment, in particular for start-ups.

Fighting tax evasion and informal economy: Despite the significant progress that has been made in recent years, tax evasion and the relative importance of the informal/shadow economy continue to constitute important challenges. Both phenomena imply not only a loss in collected revenues, but also a possibly distorted allocation of the tax burden, reduced economic efficiency and socially unfair outcomes. Streamlined measures that provide incentives for the increase in electronic transactions, improved monitoring mechanisms, as well as efforts to strengthen tax compliance and payment discipline constitute important priorities and should be further reinforced in order to strengthen the fight against tax evasion and to diminish the part of economic activity that takes place outside the official sector.

Reducing compliance and administrative costs: Compliance with tax provisions and legislation had traditionally been relatively weak and had contributed to past fiscal imbalances. Over the previous years, the increasing use of electronic transactions, as well as the intensification of targeted audits by the tax administration, has resulted in significant improvements in compliance and in strengthening payment culture. Further progress along the same lines should be sought by addressing issues that made the detection of non-compliance difficult or that actually provided incentives for such behaviours. These issues relate both to the increased automation of auditing processes, and to reforms designed to address lengthy tax dispute resolution procedures, or legal uncertainty as a result of the complexity of the legal framework.

Increasing the efficiency of the tax administration: Major institutional reforms have been put in place in order to increase the transparency, accountability and efficiency of the tax system. These reforms should be further strengthened and complemented by significant investments in the modernisation and digitalisation of the Independent Authority of Public Revenue (IAPR). Such investments should focus on

the development of IT systems and tools that will facilitate the IAPR's transformation into a modern, flexible and effective organisation. This will address challenges with respect to the insufficient level of digitalisation and relatively limited use of modern technologies in certain areas, and will substantially strengthen IAPR capabilities and efficiency. Stronger capabilities are of particular importance with respect to tax audits, since modernisation in this area can have a strong impact also in terms of tax compliance.

b. Objectives

The overall aim of this component is to increase the effectiveness, efficiency and fairness of Greece's tax administration. The component is in line with the Country Specific Recommendations (CSR) for the years 2019 and 2020, which recommend to continue and complete reforms in line with the post-programme commitments given at the Eurogroup of 22nd of June 2018, so as to tackle the excessive macroeconomic imbalances and to restart a sustainable economic recovery, following the gradual easing-up of constraints imposed due to the Covid-19 pandemic outbreak. To that end, Investment 1 is a specific commitment to ensure continuity and completion of reforms adopted under the ESM programme. Moreover, the fight against aggressive tax planning, and avoidance of distortion of competition between firms are major Union priorities that are aligned with the objectives of the component.

The first and third reforms of the component are consistent with the EU strategy "for fair and simple taxation supporting the recovery strategy"⁷⁹ and all other measures champion the **European Flagship 'Modernise'** that requires interoperable, personalised and user-friendly digital public services.

1. Economic, social & territorial cohesion, including jobs & growth: Fair and efficient tax system is of paramount importance in order to support robust economic growth. Predictable and stable tax revenue is needed to respond to the major challenges of the current crisis. A fair and efficient tax system will be even more important in the months and years ahead, as countries seek to recover from the outbreak of the covid-19 pandemic.

Taxation must be used as a tool for sustainable economic growth, including in the context of the European Semester. In particular, growth-friendly tax systems, as highlighted by the Commission, can support private investment and improve business environments, encourage employment, reduce inequalities and contribute to an environmentally resilient economy. Moreover, simplifying the tax system can help limit economic distortions and reduce the administrative burden for companies.

The reforms included in the component (especially reforms 1 and 2), will achieve these objectives by improving the efficiency and fairness of taxes and reducing administrative burden and compliance costs.

2. Economic & social resilience: Macroeconomic imbalances and high public debt: it is important to fight tax evasion and improve the tax administration in order to ensure the sustainability of public finances. Tax abuse undermines the social contract between citizens and the state and the principle of fair burden sharing. Growth – friendly, more objectively distributed and digitally modernised taxes will alter the tax culture of individuals and enterprises. Reforms to combat tax evasion, shadow economy and smuggling (i.e reforms 1, 2, 3, 4, 5, 6 and investment 1) are a necessity for revenue administration and could provide much needed funds that will be channeled in the Greek economy. Toward that direction, reform 7 is expected to act as a strong tax incentive for realizing expenses on strengthening the green economy, energy and digitization in the form of an increased deduction of one hundred percent (100%).

⁷⁹ COM(2020) 312 final

3. Digital transition: Digitalisation of the economy and of national tax authorities through the update of e-systems and the introduction of automated procedures should be considered as an opportunity. The use of digital solutions facilitates the tasks of tax administrations and will be instrumental in cutting compliance costs, both for tax administrations and enterprises. Furthermore, data analytics is crucial for the effective use of the growing amount of data collected. Digitalisation is also a key factor in order to alleviate the reporting burden imposed on enterprises, especially SMEs, young enterprises and enterprises with cross border transactions and fight tax evasion. The reforms and investment included in the component (especially reforms 2, 3, 4, 5, 6 and investment 1) promote the digitalisation and efficiency of tax revenue administration. The digital aspect of this component supplements the digitalisation of businesses as described in Component 2.3 'Digitalisation of businesses' and will further improve and enhance tax compliance and collection.

c. National strategic context

The reforms and investment of the component focus on addressing major challenges of the Greek tax system. They form part of a wider strategy that will lead to sustainable economic growth and will help the country to reach the macroeconomic imbalance procedure benchmarks. The component is in consonance with the national strategic context, which consists of the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides. The Pissarides' Committee report accentuates the need to change the structure of taxes in order to reduce distortions and disincentives in extroverted entrepreneurship. The tax system is required to be made more compatible with high growth rates in the medium term, through strengthening the productive base of the economy (reform 1). Furthermore, efficient tax administration requires a high level of technology and know-how to be maintained by the national tax authority (IAPR) (reforms 4, 6 and investment 1) in order to avoid further erosion of the tax base. The Pissarides' Committee report also highlights that real estate taxes need to be streamlined and consolidated.

An important condition, according to the experts' committee, for maintaining revenues at the necessary level while strengthening the productive base is the broadening of the tax base. The appropriate use of electronic transactions and other means that enhance transparency and motivate households and enterprises to move to the formal rather than the informal economy will contribute to this. Reforms 2, 3, 4, 5 and investment 1 constitute targeted policies that will fortify the fight against the shadow economy. Likewise, the strong rise in electronic payments has contributed to the rise in VAT receipts, however there is still considerable room for further improvement. The current framework can be strengthened through incentives for digital transactions as reforms 2 and 5 aim to achieve. The Pissarides' Committee report also considers the adoption of stricter and more intensive control measures to reduce the smuggling of fuel and tobacco products, with the appropriate equipment and know-how, as reforms 3 and 6 introduce.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Codification and simplification of tax legislation, rules and procedures (ID: 16643)

Reform 2. Promoting the acceleration of VAT refunds (ID: 16610)

Reform 3. New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy) (ID: 16656)

Reform 4. Online cash registers & POS (ID: 16614)

Reform 5. Adoption of measures and incentives to increase electronic transactions

Reform 6. Super - depreciation of expenses on green economy, energy and digitisation (ID: 16863)

Reform 7. Digital Transformation of the Tax Audits (ID: 16611)

b. Investments

Investment 1. Digital Transformation of the Tax and Customs Administration (ID: 16291)

4. Open strategic autonomy and security issues

Not applicable.

5. Cross border and multi country projects

Not applicable.

6. Green dimensions of the component

Not applicable.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or the challenges resulting from it.

Digitalisation of the economy and of national tax authorities through the replacement and upgrade of core digital systems, the introduction of automated office and work processes, the digitalization of audits and controls as well as the update and improvement of taxpayer e-services should be considered both as a challenge and an opportunity. The use of digital solutions will strengthen the capacity of the tax authorities, enhance the overall performance and upgrade the quality of services provided to individuals and enterprises, and ultimately make taxes more growth friendly thus improving tax and customs administration and tax collection. The replacement of core tax and customs information systems aims to fill the gaps in existing applications, digitise all manual forms and processes, ensure interoperability for internal tax and customs administration's information systems and interoperability with IT systems of the rest of the public sector. The automation of office and work processes caters for a modernized, secure and efficient working environment for tax authorities' employees aiming to increase their performance at work and therefore the effectiveness of the authorities. The modernization of audits and controls is instrumental in the fight against tax evasion and smuggling. The expansion, improvement and upgrade of simplified and user-friendly electronic services shall allow for new capabilities and functionalities, providing access to open and qualitative data, thus reducing the physical presence of taxpayers in tax authorities' offices. The reforms and investments included in the component (namely reforms 1, 2, 3, 4, 5, 6 and investment 1) promote the digitalisation and efficiency of tax and customs administration and also seek to strengthen the green economy, energy and digitization in the form of an increased deduction

of one hundred percent (100%) (Reform 7). The digital aspect of this component supplements the digitalisation of businesses as described in component 2.3 'Digitalisation of businesses' and will further improve and enhance tax compliance and collection.

By comprising 55% digital expenditures (see Table 1 below) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 20% to be related to digital.

Title of reform or investment	Climate (%)	Digital (%)
Codification and simplification of tax legislation, rules and procedures (ID: 16643)	0%	0%
Promoting the acceleration of VAT refunds (ID: 16610)	0%	0%
New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy) (ID: 16656)	0%	0%
Online cash registers & POS (ID: 16614)	0%	0%
Adoption of measures and incentives to increase electronic transactions (ID: 16616)	0%	100%
Digital Transformation of the Tax Audits (ID: 16611)	0%	100%
Super - depreciation of expenses on green economy, energy and digitisation (ID: 16863)	0%	0%
Digital Transformation of the Tax and Customs Administration (ID: 16291)	0%	100%

9. Do no significant harm

The "Do No Significant Harm" principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of Component 4.1 was assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),

- indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
- budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)
- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which is then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the first component (“Making taxes more growth friendly and improving tax administration and tax collection”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Organization of publicity and awareness actions

1st element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment and software licenses. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment and licenses needed to be purchased in each investment and determination of the relative amount required

- Estimation of the relative unit costs in items for equipment or in years for the licenses based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software licenses

2nd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

3rd element: Project management, consultation and technical assistance

The cost as regards the third element derives from the provision of the complementary services required per project which include the consultation and technical assistance services concerning the codification and simplification of legislation, the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

4th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one in man months (working months)

- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per man month corresponding to the awareness action)

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 4.2: Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption

1. Description of the component

Policy areas/domain: Institutional resilience, that aim to, inter alia, increase crisis preparedness and crisis response capacity, in particular by improving business and public service continuity, the effectiveness of public administration and national systems, including minimising the administrative burden, as well as fraud prevention and anti-money laundering supervision

Summary: The component has three main objectives. First, to increase transparency and fight corruption. This is done via enhancing the legal framework for Anti-Money Laundering/Countering the Financing of Terrorism (AML/CFT); via combating illicit trade and protecting intellectual property rights through the reinforcement of the Interagency Unit for Market Control; and via the creation of an integrated IT system for the management of controls and the establishment of control stations to intensify audits. At the same time, it aims through a series of targeted interventions and training in the areas of detection, prevention and awareness of controllers, citizens and all stakeholders for the proper functioning of the ecosystem, through the efficient combating of corruption of all forms.

Second, to modernise the Public Financial Management (PFM) framework and better prepare the staff of the public procurement domain. It includes (1) processes optimisation and implementation of a Government Enterprise Resource Planning System (ERP) to support the fiscal and financial management of the Central Government and other General Government agencies, (2) the modernisation of the institutional framework of State Owned Enterprises (SOEs) and (3) Electronic Invoicing. In the above context, the digital transformation of the Deposits and Loans Fund is sought in order to substantially enhance its efficiency and create additional value for the various interest groups. Also, it includes a series of initiatives that revolve around better preparing and training public servants in order to be able to perform more efficiently to their enhanced role within the public procurement domain

Third, to enhance the efficiency of public investments. This includes enhancing the digital capacity of decentralised State aid units, as well as updating the legal framework for State aid and with Enhancement of policy planning and coordination.

The above are complemented by a comprehensive strategy towards modernizing the human resources management and creating a new management approach of public sector operation and activity.

Objective: The aim of the component is the implementation of reforms in selected areas of public administration and public financial management that are of particular importance for strengthening both public and private investment. The priorities and objectives of the component are in full alignment with the recommendations of the European Commission to Greece, in the context of the Country Specific Recommendations (CSR) of 2019 and 2020 and more specifically regarding the digitisation and the improvement of the quality of the framework management of public finances, the reduction of administrative burdens but also the training of public executives for their effective response to their enhanced role.

This will be accomplished through a series of projects that focus on the digitisation of critical areas of the public financial management system, as well as through legislative reforms with the purpose of modernising the institutional framework and increasing its transparency.

Through the implementation of these actions, the component will contribute to increased efficiency of government policies, reduction of costs, smooth interaction among government entities, increased quality of services provided, and strengthening of government tools in the fight against corruption.

Reforms and investments

Reforms

- **Reform 1.** Enhancing the AML/CFT Framework (ID: 16702) [COFOG: 01.1]
- **Reform 2.** Combating illegal trade and protecting intellectual property (ID: 16703) [COFOG: 01.1]
- **Reform 3.** Modern institutional framework for State Owned Enterprises(ID: 16657)

- **Reform 4.** Enhance State-aid network (ID: 16701) [COFOG 01.1]
- **Reform 5.** Strengthening the National Anti-Corruption Framework through targeted interventions in the fields of detection, prevention and raising awareness (ID: 16952) [COFOG: 03.6]
- **Reform 6.** Efficient Combating of Corruption (ID: 16978)
- **Reform 7.** Reforming Public administration (ID: 16972) [COFOG: 01.6]
- **Reform 8.** Accounting Reform (ID: 16974)
- **Reform 9.** Professionalization of public procurement domain (ID: 16711)
- **Reform 10.** Enhancement of policy planning and coordination (ID: 16981)

Investments

- **Investment 1.** Modernise the Hellenic Consignment Deposit and Loans fund (ID: 16940) [COFOG: 01.6]
- **Investment 2.** Digital Transformation of Fiscal Management and Supervision in General Governance & Electronic Invoicing (ID: 16705) [COFOG: 01.6]

Estimated cost: EUR 189 million, of which EUR 189 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

In the context of the European Semester, important challenges have been identified in the areas of public and private investment, as well as in the areas of public administration and corruption. The recommendations addressed by the Council to Greece in 2020 included calls to frontload mature public investment projects and promote private investment to foster the economic recovery, as well as to improve the effectiveness and digitalisation of public administration. At the same time, Greece has received both in 2019 and in 2020 a Council recommendation on the continuation and completion of reforms in line with post-programme commitments, focusing mainly on the fight against corruption, the operational issues of the PFM framework and the public investment regulatory framework. Adding to the aforementioned, as noted in the Council recommendation of 2020 for Greece, the country has committed since the Eurogroup of June 2018 to proceed with implementing specific measures for the fight against corruption, which is effectively addressed through targeted interventions of this component.

In light of the above, the main challenges addressed through the reforms and investments presented in this component are the following:

Further strengthening of the AML/CFT framework. Despite significant progress over the previous years, improvements are needed in a number of areas of the AML/CFT framework, including in relation to the transposition of the fifth AMLD [Directive (EU) 2018/843]. Moreover, further digitisation of functions and procedures related to AML/CFT constitutes an important challenge in order to ensure the efficient use of the framework and the timely access of the competent authorities to the relevant information.

Enhancement of administrative capacity to fight illicit trade. Human resources of the newly founded Interagency Unit for Market Control, which is the responsible body for fighting illicit trade and protecting intellectual property rights need enforcement to efficiently cope with the extended competences. Moreover, enforcement is needed in modern control techniques and the digital skills of the personnel.

Enhancement of administrative capacity in public procurement: The professionals working in the field of public procurement are not, in many cases, suitably specialized in the use of the tools provided by the regulatory framework. At the same time, there exists a shortage of staff training in many areas related to conducting effective procedures, award and execution of public contracts (e.g. strategic procurement, contract drafting, contract management, eProcurement, market research and analysis, framework

agreement management etc.). Thus, they should be skilled and trained on the regulatory framework, procurement processes, contract drafting and management, e-procurement, market research and analysis, and management of framework agreements.

Digital transformation: Digital transformation is needed in order to facilitate daily activities of government agencies, improve their operational efficiency, limit risks, increase organizational responsiveness to citizens and businesses, comply with state and monetary regulations (e.g. ECB Regulation on AnaCredit, Anti-money laundering, GDPR etc) and achieve interfacing with other public supervising authorities and entities. Moreover, IT system expansions and technological upgrades are needed to accelerate digital transformation of Government services.

Financial management: Transformation of the fiscal and financial management, reporting and monitoring of the financial data of General Government entities is required to increase accountability, transparency and decision making. New accounting policies are needed to meet the needs of the financial statements and provide the necessary business requirements for the design of the GOV-ERP system.

Systems interoperability across the General Government: The different financial management information systems (FMIS) of Central Administration's entities (Ministries, Decentralised Authorities etc.) should be further interconnected with the central FMIS of the Ministry of Finance that is operated by the General Accounting Office (GAO).

Enhance management of State assets: The operation of State Owned Enterprises (SOEs) should adapt the OECD standards for corporate governance, and harmonisation with the General Government budgetary framework, effective financial and investment planning, as well as effective monitoring and control mechanisms.

Decentralisation of responsibility for State aid measures: Decentralised State Aid Units (DSAUs), which assist the competent authority (Central State Aid Unit-CSAUs) for state aid in Greece, should be more engaged in State aid related processes, leading to better exploitation of opportunities that may derive from the decentralisation of responsibility, which stands as one of the pillars of the Commission's State Aid Modernisation initiative. To address the challenges described above upgrade of the necessary digital infrastructure.

Reforming Public Administration: As Public Administration needs to adapt to totally new conditions as a result of both the continuous economic and social challenges and the tremendous technological advances, an comprehensive strategy for human resources management needs to be integrated. The aim is to transform public administration into citizen-focused services, while enabling the personal development and reward of the public servants.

Combat corruption: The National Transparency Authority (NTA) holds an enhanced role within the Greek ecosystem with regard to the efficient combating of corruption across the ecosystem. Through a set of targeted interventions that range from updating the regulatory ecosystem of the country, with the involvement of other key stakeholders such as the Ministry of Interior and the Ministry of Justice, to performing capacity building initiatives to better equip its staff as well as inform the general public, it will seek to eradicate corruption of all forms in order to enhance transparency and integrity.

b. Objectives

The overall objective of the component is to increase the effectiveness of public administration in order to promote public and private investment. This objective is going to be attained through actions focusing on (a) digital transformation of the PFM framework, (b) reduction in administrative burden, (c) strengthening the fight against corruption and improve transparency, (d) capacity-building and increase in personnel's skills, (e) efficiency of public investment, (f) improved quality of the

PFM framework. This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020. Specifically:

(i) Reform 1 aims at addressing recommendations 1:2019 and 4:2020 through strengthening financial stability.

(ii) Reform 2 aims at addressing recommendation 3:2020 through increasing the effectiveness of public administration and promoting private investment.

(iii) Reform 3 aims at addressing recommendations 3:2020 through increasing the effectiveness of the public sector, as well as recommendation 1:2020 through supporting medium-term sustainability.

(iv) Reform 4 aims at addressing recommendation 3:2020 through increasing the effectiveness and the digitalisation of the public sector, and promoting private investment.

(v) Reforms 5, 6 aim at addressing recommendation 4:2020 through proceeding with implementing specific measures for the fight against corruption

(vi) Reform 7 Reforming Public administration aims at the modernisation of the Public Sector and the strengthening of its human resources through the following pillars: (a) establishment of multilevel governance-allocation of responsibilities between the levels of Public Administration; (b) creation of an AI-based strategic workforce planning tool; (c) modernizing the hirings procedures; (d) upskilling/Reskilling the human resources of the Public Sector and (e) motivational/ rewarding system for public entities and civil servants

(vii) Reform 8 aims at addressing recommendation 3:2020 through increasing the effectiveness, transparency and modernisation of the public sector (gradual transition to accrual accounting and consolidated financial reporting).

(viii) Reform 9 addresses recommendation 3:2020 through increasing the effectiveness of the public sector and through focusing investment on the skills of staff in that domain.

(ix) Reform 10 addresses recommendation 3:2020 through increasing the effectiveness of the public sector

(x) Investment 1 aims at addressing recommendation 3:2020 through the digitalisation of the Hellenic Consignment Deposit and Loans Fund (CDLF)

(xi) Investment 2 aims at addressing recommendation 3:2020 through increasing the effectiveness and the digitalisation of the public sector.

In addition, the objectives of the component contribute to the European Flagship “Modernise” (COM(2020) 575) mainly through Investment 1, Investment 2, Reform 4 and Reform 8

1. Digital transition: The proposed reforms and investments entailed under the present component will contribute towards the digital transformation of public administration addressing significant gaps that exist in relation to the use of information and communication technologies in crucial areas of the PFM framework. The digital transformation of these areas will be achieved through the creation of new integrated IT systems, through the upgrade of existing digital infrastructure, as well as through enhanced interoperability of new and existing systems.

2. Economic resilience: The entailed reforms and investments will safeguard the economic resilience of the Greek economy, by supporting actively better policy making in the public sector. The establishment of a transparent and trustworthy regulatory environment coupled with inter-operable public services will contribute significantly in promoting private investment that is necessary in order to gradually close the

large investment gap that the Greek economy suffers from. The key initiatives serving as key enablers towards ensuring a quick recovery and a long lasting economic resilience are mainly focused on the reduction of administrative burden, strengthening the fight against corruption, public investment's efficiency and enhancement of PFM framework's quality.

In light of the above, the automation of procedures and the streamlining of the relevant legislative framework will reduce the high administrative burden that has an impact on the efficiency of public administration, but it also implies a high cost for businesses which provides disincentives to private investment. Similarly, the improvement of the legal framework related to AML/CFT will facilitate a more efficient organisation, as well as the intensification of audits. The reform and investments aiming at increasing the efficiency of the public administration and the effectiveness of the country's State Aid network, along with the update of the institutional framework for SOEs, will contribute towards reducing the high investment gap, while in parallel will ensure the swift and efficient implementation of investments financed under the RRF. Lastly, the actions aiming at improving fiscal surveillance and monitoring mechanisms at the General Government level will ensure the restoration of a prudent budgetary position, tackling the strong fiscal impact of the Covid-19 pandemic.

c. National strategic context

The entailed reforms and investments of the present component are aligned with the directions set out in the national strategic context. In more detail the Pissarides' Committee report for the Greek Economy has identified that the modernisation of the public administration and subsequently its contribution to the national economy development for the next years should move towards enhancing the transparency and predictability of the decision making procedures, addressing the high level of perceived public sector corruption as well as towards supporting the digitalisation of the public services. To this end, the digitalisation of public administration, which is part of the component's investments, keeps up with the directions set out by the Bible of Digital Transformation.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1. Enhancing the AML/CFT Framework (ID: 16702)

Reform 2. Combating illegal trade and protecting intellectual property (ID: 16703)

Reform 3. Modern institutional framework for State Owned Enterprises (ID: 16657)

Reform 4. Enhance State-aid network (ID: 16701)

Reform 5. Strengthening the National Anti-Corruption Framework through targeted interventions in the fields of detection, prevention and raising awareness (ID: 16952)

Reform 6. Efficient Combating of Corruption (ID: 16978)

Reform 7. Reforming Public administration (ID: 16972)

Reform 8. Accounting Reform (ID: 16974)

Reform 9. Professionalization of public procurement domain (ID: 16711)

Reform 10. Enhancement of policy planning and coordination (ID: 16981)

b. Investments

Investment 1. Modernise the Hellenic Consignment Deposit and Loans fund (ID: 16940)

Investment 2. Digital Transformation of Fiscal Management and Supervision in General Governance & Electronic Invoicing (ID: 16705)

4. Open strategic autonomy and security issues

Non applicable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Non applicable.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The proposed reforms and investments entailed under the present component (namely reforms 2, 4, 7 and 8 as well as investments 1 and 2) will contribute towards (a) the digital transformation of public administration and enhancement of its digital services, (b) the simplification and improvements of procedures followed by the implementation of contemporary information systems, (c) the increased interoperability of systems and data and (d) the use of efficient modern technologies and systems addressing significant gaps that exist in relation to the use of information and communication technologies in crucial areas of the Public Finance Management framework. The gradual transition to accrual accounting and consolidated financial reporting through the acceleration and simplification of procedures and the digital transformation of the PFM framework will generate important spillover effects including (i) the establishment of a fully operational new accrual-based General Government Accounting Framework (GGAF), (ii) improved accountability, transparency and decision making by enhancing the State's capacity to produce fiscal and financial reporting in line with international accounting standards, (iii) significant cost-savings in public finance management through the introduction of cutting-edge technologies and systems for government and central administration budgeting and accounting, and (iv) strengthening the government's decision and policy making processes through useful and real-time information and reports about the financial and fiscal status of the Central Administration and General Government, including entities that lie outside General Government but are under State control. Such initiatives are expected to transform the Greek growth model by providing a "digital reboot" and significantly boost annual GDP growth during a course of 5-10 years.

By comprising 27% digital expenditures (see table 1 below) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 20% to be related to digital.

Title of reform or investment	Climate (%)	Digital (%)
Enhancing the AML/CFT Framework (ID: 16702)	0%	0%
Combating illegal trade and protecting intellectual property (ID: 16703)	0%	0%
Modern institutional framework for State Owned Enterprises (ID: 16657)	0%	0%
Enhance State-aid network (ID: 16701)	0%	0%
Strengthening the National Anti-Corruption Framework through targeted interventions in the fields of detection, prevention and raising awareness (ID: 16952)	0%	0%
Efficient Combating of Corruption (ID: 16978)	0%	0%
Reforming Public administration (ID: 16972)	0%	0%
Accounting Reform (ID: 16974)	0%	0%
Modernise the Hellenic Consignment Deposit and Loans fund (ID: 16940)	0%	100%
Digital Transformation of Fiscal Management and Supervision in General Governance & Electronic Invoicing (ID: 16705)	0%	100%
Professionalization of public procurement domain (ID: 16711)	0%	0%
<i>Enhancement of policy planning and coordination (ID: 16981)</i>	0%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of Component 4.2 was assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and

- budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)
- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the second component (“Modernize the public administration, through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Construction of new building or renovation of existing buildings
- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs
- Organization of publicity and awareness actions

1st element: Building construction and renovation

The relative costing of the investments as regards the first element derives from the renovation of buildings. The cost parameters of these investments mainly include the fees charged for the construction works. The costs estimates are based on the following parameters:

- Specification of the surface of the area measured in square meters
- Estimation of the unit costs related to the construction works (unit costs per square meter) based on the relevant market rates and calculation of the overall costs required per project

2nd element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment and software. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment needed to be purchased in each investment and determination of the relative amount required
- Estimation of the relative unit costs in items based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software

3rd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

4th element: Project management, consultation and technical assistance

The cost as regards the fourth element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

5th element: Training and professional certification programs

The cost as regards the fifth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs included in the fourth pillar of the recovery and resilience plan is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. as well as the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

6th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one (e.g. working hours, months or years)
- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per working hour/month/year corresponding to each awareness action)

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 4.3: Improve the efficiency of the justice system

1. Description of the component

Policy area/domain: Social and institutional resilience, that aim to, inter alia, increase crisis preparedness and crisis response capacity, in minimising the administrative burden, and the effectiveness of judicial systems

Summary: An ambitious agenda to improve the efficiency of the justice system includes four dimensions:

Firstly, accelerate i.e. a set of reforms aimed at speeding up justice (special sections, JustStat, changes in the organisational structure of the courts) but also at the same time increasing its efficiency, creating a sense of trust among the citizens of the country for the proper functioning of the system through its rationalisation.

Secondly, digitalise i.e. e-justice (upgrading of record keeping systems, extension of information systems and skills and digital skills for judges and judicial staff). This specific direction is in full alignment with the digital priorities and actions of digital transformation of the public sector and the country in general, and is expected to benefit the justice system, public administration and the business environment in many ways.

Thirdly, upgrade infrastructure i.e. targeted investments in buildings and the creation of an electronic register of structures. It is directly linked to the above two dimensions and is expected to act as an accelerator to fulfil them, achieving the modernisation of old structures and buildings, significantly supporting the work of justice officials.

Fourth, revise the curriculum of the National School of Judges and the National School of Public Administration with the ultimate aim of modernising the training provided and enhancing the acquisition of new skills necessary for the Judiciary and judicial officials following international good practice through a fully Justice-related skills program. The programs will mainly concern digital skills, while at the same time leadership, project management, and other skills will be included.

Objectives: The aim of the component is to increase the efficiency of the justice system, which will have a positive effect on strengthening economic and social resilience as well as social cohesion.

Through its targeted reforms and investments, it seeks to achieve alignment with important European initiatives such as "Reskill and upskill" and "Modernise" but also with the Country-specific Recommendations for the years 2019 and 2020. At the same time, Digital Justice (E-justice) emerges as a priority, through the use of modern technology to modernise the overall system of justice and the homogenisation of practices.

The component is also related to reforms and investments in other components. For example, an efficient and functioning justice system helps to deal with private debt and facilitates the reduction of non-performing exposures (NPEs). Finally, it supports the successful implementation of the National Recovery and Resilience Plan itself, accelerating the implementation of public investment in relation to all types of lawsuits.

Overall, fulfilling all of the above is expected to lead to a better justice system for both companies, thus leading to the smooth operation of the Greek economy and attracting investment, and the Greek citizens, accelerating the processes of justice and settlement of all disputes more efficiently. In this context, the component is expected to lead to greater territorial cohesion for the country, as justice will now be accessible regardless of geographical location and population group of citizens.

Along with the above, the integration of new skills -soft, digital and technical- in the curriculum of the National School of Judges and through the logic of lifelong learning, the component is expected to contribute effectively to the integrated development and training of both Judges and judicial officers.

Reforms and investments

Reforms

- **Reform 1:** Accelerating the administration of Justice (ID: 16575) [COFOG: 03.3]
- **Reform 2:** Digital Transformation of Justice (E-Justice) (ID: 16727) [COFOG: 03.3]

- **Reform 3:** Skills and digital skills for judges and judicial employees (judicial staff) (ID: 16733) [COFOG: 03.3]

Investments

- **Investment 1:** New Judicial Buildings and Renovation (ID: 16292) [COFOG: 03.3]

Estimated cost: EUR 464 million, of which EUR 251 million (54%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Despite the efforts that have been made to tackle the deficiencies of the Greek justice system, significant challenges need to be addressed to improve its effectiveness. Both the European Commission in recent CSRs and Country Reports (2020 & 2019), and the national growth strategy defined in the Pissarides' Committee report have identified structural weaknesses associated with the speed and administration of the justice system. The proposed plan aims to address the following challenges:

- Further address delays in the administration of justice. In particular the civil court system needs to address challenges associated with the time needed to resolve civil and commercial disputes in the first instance. In addition, first instance courts should increase their resolution rate for litigious civil and commercial cases with the aim to reduce existing backlogs. While challenges remain, the justice system has started to become more efficient since the overly fragmented court network has been rationalised. Courts are increasingly able to cope with their workload, as evidenced by shorter disposition times, clearance rates and a reduction of backlogs, particularly in administrative justice. The strengthening of the institution of mediation could be characterised as an initiative of crucial importance with great added-value for the effective dispute resolution through the promotion of alternative methods for civil and commercial matters. These efforts should continue, so that the above challenges may be increasingly addressed throughout Greece's territory with the aim to increase economic resilience, and social and territorial cohesion.
- Tackle problems with electronic filing and processing of documents, electronic communication between courts and court users and the availability of information about the justice system, both for the general public as well as specific user groups.
- Aside from the deficiencies observed in the availability of the digital tools required in the Justice System, delays on the digitisation front is partly the result of weaknesses in digital skills within the judicial personnel. Digital transition should be complemented with a digitally skilled judiciary workforce that could make the best use of new technologies and actively participate in the justice ecosystem's digital transformation.
- Problematic infrastructure in the greek judicial system is inextricably linked to delays observed in processing and resolving disputes, as well as broader dysfunctionalities of the justice system. Greece would benefit from a court construction and renovation program that would complement other reforms aiming to increase efficiency in the judicial system and increase energy-efficiency.
- As the European Justice Scoreboard indicates, Greece lacks efficiency in the time factor. In terms of quality, the Greek justice system lags behind in a number of aspects. This concerns in particular areas such as electronic filing and processing of documents and electronic communication between courts and court users, the availability of information about the justice system, both for the general public as well as for specific user groups or the use of surveys conducted among court users or legal professionals (European Commission, forthcoming). Digital training and retraining

of judicial officers are key factors in ensuring their personal and operational independence but also in the rapid, quality and generally effective administration of justice

b. Objectives

Efficient Justice System: Creating an efficient justice system is the overarching objective of the proposals of this component. Investments and reforms included are not merely a list of distinct initiatives but constitute a coherent plan with interlinkages between different projects and programmes. For instance the institutional reforms aiming at accelerating the administration of justice 16575 will be facilitated by the digital transformation in the justice system and the new infrastructure. In the same manner, the training of the judicial staff is a prerequisite for the successful development of the e-justice projects.

The envisaged reforms and investments contribute to the European Flagship initiatives ‘Reskill and upskill’⁸⁰ and ‘Modernise’⁸¹. E-justice is primarily focused on modernising the function of the judicial system by putting in place reforms such as the creation of Justice-cloud, the homogenisation of processes and the creation of “Artificial Intelligence for Justice”. The need for reforms in the justice system is also highlighted in country specific recommendations (CSRs) and the Country Reports of 2020 and 2019. More specifically:

- Digital Transformation of Justice is in line with recitals 25:2020 and 10:2019 and addresses recommendation 3:2020 and 2:2019
- Skills and digital skills for judges and judicial employees is in line with recitals 21:2020, 25:2020, 19:2019, 10:2019 and addresses recommendations 3:2020 and 2:2019
- Enhancing infrastructures of the greek judicial system is in line with recitals 24:2020 and 10:2019
- Accelerating the administration of Justice 16575 is in line with recitals 25:2020, 26:2020, 10:2019 and addresses recommendations 3:2020 and 2:2019

Increasing growth prospects, economic resilience and regional cohesion. To improve Greece’s long-term growth trajectory, addressing Greece’s structural weaknesses is of the essence. A key set of reforms and investments in fulfilling this goal is focusing on creating an effective and rapid justice system for citizens and businesses. Reforms in the Greek justice system will unlock investment and improve the functioning of the financial system as well as the business environment⁸². All three branches of our current plan serve this goal: digital tools and skills will make justice administration more efficient, new infrastructure and institutional reforms will accelerate processing and resolving disputes in courts as well as reducing the current backlog. Also, the combination of digital reforms and the new infrastructure in cities outside Athens enhance social and territorial cohesion as justice becomes more accessible to everybody irrespective of where they live.

Green and Digital Transition. Digitising the state is both a national priority and a strategic goal for the EU⁸³. Within this context, digitising Justice is part of this effort in order to strengthen capacities using advanced technologies (including Artificial Intelligence), upgrading its IT systems, extending the existing central and local IT infrastructure and the relevant peripheral equipment, with the aim of accelerating the administration, transparency and quality of justice. The reforms included in this component will help attract more investments, boost growth and increase Greece’s economic resilience. More specifically,

⁸⁰ Reform 3

⁸¹ Reform 2

⁸² Greece’s country report 2020

⁸³ See “Shaping Europe’s Digital Future”

setting up a comprehensive e-Justice strategy with a focus on improving the efficiency and quality of the services provided by the Justice System is a key element of this effort.

Moreover, upgrading Greek courts through a combination of renovations and constructions of new energy-efficient and low-emissions buildings is in line with the goals of both the Greek government and the EU for fighting climate change and reducing the country's energy footprint. Additional gains will be made as a result of concentrating various services in fewer buildings (such is the case of the construction of the court in Piraeus and Athens) and through digital reforms that will reduce the need for physical presence.

Additionally the proposed reform regarding the skills and digital skills for judges and judicial employees aims to thoroughly modernize and enrich the existing tools and instruments of the training of judges and judicial staff for a rapid, qualitative and efficient administration of justice, taking into account the emerging technologies relevant to the justice system and aiming to bridge the digital divide due to the rapid digital transformation of the justice system.

c. National strategic context

Not applicable.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: Accelerating the administration of Justice (ID: 16575)

Reform 2: Digital Transformation of Justice (E-Justice) (ID: 16727)

Reform 3: Skills and digital skills for judges and judicial employees (judicial staff) (ID: 16733)

b. Investments

Investment 1: New Judicial Buildings and Renovation (ID: 16292)

4. Open strategic autonomy and security issues

Non applicable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Buildings are responsible for approximately 40% of EU energy consumption and 36% of the greenhouse gas emissions and are therefore the single largest energy consumer in Europe. Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

The building sector is one of the main contributors to the country's greenhouse gas emissions and within the NECP the country has set a target to renovate 600.000 buildings by 2030. The reforms and the

investments of this component aim to accelerate the reduction of emissions through the energy efficiency of residential, commercial, industrial and public buildings. An annual reduction of 781 kt CO₂e is targeted from household and enterprises renovations; the greenhouse gas emissions will be further reduced from the 210 public building renovations and 500.000 street lighting replacements. Apart from the environmental savings, the building renovation schemes will contribute to the economic recovery, through job creation in the construction sector, savings on energy bills, healthier living conditions and reduced energy poverty. Addressing the phenomenon of energy poverty is imperative due to its gradual intensification in recent years that is attributed to the economic recession. Indicatively, it is reported that about 23% of the total population appears unable to adequately heat their homes, while in the case of the economically vulnerable population the corresponding percentage amounts to 41% in 2017. An environmental goal for all citizens, vulnerable and not, is to reduce air pollution, especially in urban centers. The target is a reduction of at least 50% of the relevant indicators of energy poverty by 2025; and 75% by 2030, setting as a baseline 2016.

In addition, the component's proposed measures contribute to the green transition, taking into account climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed investment will contribute to:

- Climate change mitigation by promoting energy transition and capital flows towards infrastructure with decreased energy requirements and improved carbon footprint.
- Climate change adaptation as the deep renovation of housing and the non-residential stock with a long-term perspective, takes disaster risks and changing climatic conditions into consideration (e.g., increasing likelihood of more frequent and more severe extreme weather events) and their overall resilience.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The digital transformation of the state is both a national priority and a strategic goal for the EU. Within this context, the digitalization of Justice is part of this effort, in line with the country's e-Justice Strategy, which is focused on improving the efficiency and quality of the services provided by the Justice System, the main expression of which is undoubtedly the speed in its award, its independence and, finally, the quality of justice. The reform (namely Reform 2) included in this component is primarily focused on modernizing the function of the judicial system by putting into implementation actions that include (a) the homogenization and simplification of processes through digitisation, taking into account cyber security issues, (b) the digital integration of the systems of the courts and the Ministry of Justice with the aim of speeding up the administration of justice, (c) the upgrade of control management mechanisms, developing applications for the detection of money laundering, the safeguarding of intellectual and industrial property, and (d) the implementation of smart infrastructures aimed at reducing the environmental footprint, reducing costs and improving working conditions for all those involved in the Justice System.

More specifically, setting up a comprehensive e-Justice strategy with a focus on improving the efficiency and quality of the services provided through the digital transformation of the Justice System will strengthen the independence and effectiveness of justice facilitating the daily lives of citizens, improve the quality of decisions with respect for the independence of justice and transparency for all (businesses, citizens, professionals, etc.) and also help attract more investments, boost growth and increase Greece's economic resilience. Such initiatives are expected to transform the Greek growth model by providing a "digital reboot" and significantly boost annual GDP growth during a course of 5-10 years.

By comprising 25% of digital expenditures (see table 1 below), this component contributes to the abovementioned digital target of 20%.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 20% to be related to digital.

Title of reform or investment	Climate (%)	Digital(%)
Accelerating the administration of Justice (ID: 16575)	0%	0%
Digital Transformation of Justice (E-Justice)Digital Transformation of Justice (E-Justice) and digitisation of the archives of the Justice System (ID:16727)	0%	100%
Skills and digital skills for judges and judicial employees (judicial staff) (ID: 16733)	0%	100%
New Judicial Buildings and Renovation- Preparation, implementation, monitoring and control (ID: 16292)	40%	0%
New Judicial Buildings and Renovation- Construction of new energy efficient buildings (ID: 16292)	0%	0%
New Judicial Buildings and Renovation- Energy efficiency renovation measures regarding public infrastructure, demonstration projects and supporting measures (ID: 16292)	40%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of Component 4.3 was assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, an overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the third component (“Improve the efficiency of the justice system”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Construction of new building or renovation of existing buildings
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs

1st element: Building construction and renovation

The relative costing of the investments as regards the first element derives from the construction of new building or the renovation of existing buildings. The cost parameters of these investments mainly include the fees charged for the construction. In particular, the costs estimates are based on the following parameters:

12. Specification of the surface of the building area in each project (measured in square meters)

- Estimation of the unit costs related to the construction works (unit costs per square meter) based on the relevant market rates
- Calculation of the overall costs required per project, derived from the estimated costs of the construction works

2nd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

3rd element: Project management, consultation and technical assistance

The cost as regards the third element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

4th element: Training and professional certification programs

The cost as regards the fourth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. as well as the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

The detailed cost assessment for each measure can be found in the Appendices.

13. Loan request

Non applicable.

COMPONENT 4.4: Strengthen the financial sector and capital markets

1. Description of the component

Policy areas/domain: Economic and institutional resilience, that aim to, inter alia, increase crisis preparedness and crisis response capacity

Summary: There are two main areas covered by this component.

First, continued work on addressing private indebtedness. The passage of the single insolvency framework through parliament, a major reform, is followed by additional implementing acts that need to be adopted. Furthermore, a monitoring registry for private debt, the development of a public credit bureau, a central credit register and a credit expansion observatory, will all serve to fill the informational gaps that currently impede the successful flow of credit and the efficient monitoring of risks present.

At the same time, the implementation of the private debt monitoring strategy will ensure, through a series of targeted interventions, inter alia: the removal of asymmetric private debt information, the protection of vulnerable groups of individuals and businesses, the acceleration of non-liquidation or individuals heading for bankruptcy but also the creation of a system that will allow the monitoring and the smooth and timely settlement of private debt issues in the financial system.

Second, the capital market of Greece must be further developed, through its drastic digital modernisation. This will be achieved through the codification of the capital market framework and the revision of relevant laws and regulations, as well as the update of its information systems.

Objectives: Component 4.4 aims through integrated interventions to strengthen the capacity of the financial system to support the development of the economy, through the financing of companies and individuals to develop new activities. This direction is directly related both to the specific recommendations of the Commission for the country for years 2019-2020, which emphasize the creation of a clearly demarcated framework for the management of private debt and addressing the weaknesses of the Greek capital market. At the same time, it is aligned with the report of the Pissarides Commission and aims to address non-performing exposures (NPEs) and non-performing loans (NPLs) and at the same time the low quality and quantity of necessary information regarding the credit profiles of companies and individuals in the market.

Through a coherent set of reforms, the primary aim of this component is to address private indebtedness and strengthen capital markets. Structural changes in these two areas are not only growth-enhancing but also increase Greece's economic resilience in view of future shocks.

Social cohesion is also ensured through a set of policies that seek to benefit primarily the most vulnerable, such as the 2nd chance in the new insolvency framework.

Reforms:

- **Reform 1:** Strengthening the capacity of the financial system to overcome legacy challenges and finance the real economy (ID: 16957) [COFOG: 04.9]
- **Reform 2:** Implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance (ID: 16580) [COFOG: 04.9]
- **Reform 3:** New Loans Promotion-Establishment of the Credit Expansion Observatory (ID: 16576) [COFOG: 04.9]
- **Reform 4:** Enhanced capital market supervision and trustworthiness (ID: 16581) [COFOG: 04.9]

Estimated cost: EUR 21 million, of which EUR 21 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Modern economies need a balanced use of the two main sources of business financing, i.e. the banking system and the capital market. Greece has not been able to exploit efficiently the advantages inherent in the markets. This is made obvious by the country's comparatively low market capitalisation as a percentage of GDP. This not only adversely affects the Greek per capita GDP but is also correlated with the country's low total gross savings as a percentage of GDP.

Pissarides' Committee report identifies problems associated with private debt which were exacerbated by a relatively complex and inefficient insolvency framework.⁸⁴ According to the 2020 European Semester⁸⁵ and the sixth enhanced surveillance report for Greece in May 2020, the Greek authorities committed to put in place a consistent and unified framework for settling corporate and household debt in order to:

- resolve households and businesses' over-indebtedness in a swift and sustainable manner;
- limit procedural abuse by debtors, and
- accelerate the economic recovery

Inefficiencies and structural problems with capital markets, private debt and insolvency framework are also identified in 2020 & 2019 Country Specific Recommendations (CSRs) and Country Reports. It is highlighted that non-performing loans on banks' balance sheets undermine future growth prospects⁸⁶. The still high non-performing loan ratio leaves little room for a sizable and sustainable rebound of credit provision to the real economy, including households and non-financial corporations, thereby hindering domestic investment⁸⁷. Supporting the banking sector's capacity to offer sustainable debt restructuring solutions to viable borrowers will be crucial for safeguarding asset quality while bolstering economic recovery. In this context, Greece faces the following individual challenges with regard to private debt and capital markets:

Lack of data and asymmetrical Information. The current situation of the NPEs has exposed two problems directly related to the indebtedness of households and businesses, and their consequent inability to meet their loan obligations. The first relates to the lack of information on the creditworthiness of borrowers based on their debt payment behavior towards the Greek State (i.e. tax authorities and social security funds) and the second is the practice applied by credit institutions before the economic crisis, concerning the inadequate use of available credit information when granting credit products. The lack of a unified way of sharing information creates confusion and slows down the resolution of Private Debt. This problem primarily affects households SMEs, thereby worsening the financial situation of banks. As a result, it undermines growth prospects, reducing Greece's economic resilience both in the short and in the long run. In addition to that, no data are available on the credit expansion of the banks, other than the aggregated data reported to the Bank of Greece. However, these aggregated data do not provide information about the type of borrowers, (i.e industry, size), their geographical distribution and other characteristics.

⁸⁴ Section 4.42, Rigidities: Loans & Banks

⁸⁵ Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

⁸⁶ Recital 2, CSR 2020, Recital 3, CSR 2019

⁸⁷ Country Report 2020

Insolvency framework. The accumulation of NPEs over the past years highlighted specific structural weaknesses with regard to the solvency management of individuals and legal entities.

b. Objectives

The proposed reforms address all major challenges associated with private indebtedness and capital markets. They are in line with the 2020 European Semester⁸⁸ and the sixth enhanced surveillance report for Greece in May 2020 that focused on setting up a comprehensive framework for resolving private debt and addressing capital markets inefficiencies. Finally the Pissarides' Committee report focuses on factors that are inhibiting growth such as the high rate of NPEs and the shortfalls in the insolvency framework and which are to a large extent addressed by the proposals of the component. In particular, the reforms and investments of the components are aligned with the following recommendations:

- Establishment of a Public Credit Bureau and the development of a solvency assessment IT system (part of Reform 1) is in line with recital 22:2020⁸⁹ and recommendations 2020:3, 2020:4 and 2019:2
- The National Private Debt Resolution Strategy and the development of a monitoring registry for private debt (part of Reform 1) are in line with recitals 2:2020, 22:2020, 3:2019 and recommendations 3:2020, 1:2019
- The Central Credit Registry (CCR) (part of Reform 1) is in line with the commitment of the country in the Eurogroup of November 2020 and is part of the overall effort to reduce risk in the banking and financial sector.
- The new unified insolvency framework for the restructuring of debt and the 2nd chance scheme (Reform 2) is in line with recitals 2:2020, 22:2020, 28:2020, 3:2019 and recommendations 3:2020, 1:2019
- Promotion of new loans and the establishment of the Credit Expansion Observatory (Reform 3) is in line with 28:2020, 3:2019 and recommendations 3:2020, 1:2019
- Enhanced capital market supervision and trustworthiness (Reform 4) is in line with recommendations 4:2020, 1:2019

The reforms and investments included in the component are interrelated and highly complementary, constituting a piece of a broader puzzle that forms a comprehensive plan with regard to private investment, economic and institutional transformation. For example, the establishment of a public credit bureau and development of a solvency assessment IT system will provide useful input in assessing the efficiency of the new unified insolvency framework. Similarly, the efforts that are made to reduce the share of household and corporate debt are also supported by the reforms on the Justice system, and in particular the ones associated with accelerating the administration of Justice 16575.

To address existing challenges, in line with European and national recommendations, the following objectives would need to be reached:

⁸⁸ Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

⁸⁹ "It is important that in this process, the banking sector fulfils – with the support of the authorities – its intermediary role to maintain the necessary flow of credit, on the basis of appropriate credit risk assessment and prudent credit standards, while accurately reporting any deterioration in asset quality".

Create an efficient insolvency framework to increase economic resilience and social cohesion. To address the shortcomings of the current regulatory framework, the introduction of a simple and effective insolvency regime is of vital importance. More specifically, to achieve this objective, the new regulatory regime needs to meet the following conditions:

- Increase the efficiency in loan servicing and workout and prevent the need for judicial proceedings with the improvements on multilateral negotiations.
- promote extra-judicial processes and automated solutions to remove congestion in courts.
- develop a prevention mechanism that will identify early stages of economic difficulty on debtors and warn them accordingly
- develop an electronic platform for the out-of-court settlement of debts of individuals and legal entities to accelerate the private debt resolution by reducing cases resulting to court, simplifying and expediting restructuring/ liquidation process
- strengthen the repayment capacity of vulnerable households to maintain repayment capacity, prevent bankruptcy and safeguard the right to housing for vulnerable households.

Enhanced capital market supervision and trustworthiness. The proposed reform focuses on the enhancement of the capital markets' supervision in Greece, through the digital transformation planned by the Hellenic Capital Market Commission (HCMC) with a focus on the restructuring and advancement of its current IT infrastructure. This will allow the effective and timely management of the data received, stored and processed in respect to capital market participants that are under HCMC's supervision. It consists of 3 subprojects concerning the digitalization of HCMC organization & procedures, focusing in the areas of "Market Surveillance", "Data collection, processing, analysis and monitoring" and "Cybersecurity, cyber defense, cyber resilience".

Address private indebtedness. The implementation of a strategy addressing private indebtedness aims to bring the level of private debt at a level consistent with the proper allocation of resources in the economy. And to achieve this goal through an equitable and socially responsible treatment of creditors and debtors. This will be made possible by putting in place a coherent plan that facilitates debt resolution and gives a second chance to entrepreneurs who have defaulted and also promotes extra-judicial processes.

Increase economic & social resilience through better informed policy making. Gathering data about the profile of the borrowers (i.e. industry, size) and the credit expansion of the banks is crucial for designing, implementing and monitoring effective economic and financial policies. This is part of a broader effort aiming at increasing the readiness of the state and its policies with regard to the new loans. This would be achieved by establishing an electronic platform that would function as an observatory which will gather and process data from the banking system. The platform constitutes yet another piece of the puzzle in the efforts undertaken towards the digital transition of the state. As this platform allows for well-informed policy-making decisions and timely interventions in times of rapid escalation of the problem, it enhances economic resilience in view of future fluctuations and shocks.

c. National strategic context

Not applicable.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: Strengthening the capacity of the financial system to overcome legacy challenges and finance the real economy (ID: 16957)

Reform 2: Implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance (ID: 16580)

Reform 3: New Loans Promotion-Establishment of the Credit Expansion Observatory (ID: 16576)

Reform 4: Enhanced capital market supervision and trustworthiness (ID: 16581)

4. Open strategic autonomy and security issues

Non applicable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

Non applicable

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

As pointed out, a major issue the Greek financial system is currently facing is the lack and low quality of information available regarding credit profiles for businesses and individuals. This results in the financial system not being able to provide enough support to the growth of the economy through the financing of businesses, and individuals to expand in new ventures and economic activities.

The use of digital solutions tailored to the country's financial system's needs is considered a prerequisite for the country to overcome legacy problems and achieve growth and competitiveness both in the local as well as the international setting. These digital solutions are expected to curb inefficiencies in the financial system and capital market as well as equip the relevant authorities and stakeholders with the necessary digital tools.

The above are pursued consistently throughout Component 4.4, by the introduction of the relevant digital systems and technologies that will assist in strengthening the financial sector and capital markets. More specifically, Reform 1 is expected to remove information asymmetries in the financial system of Greece as well as monitor the quantity and quality of investment spending, the degree of competition in the Greek banking system and the depth, liquidity and price efficiency of the secondary market for NPLs, through the development and operation of:

1. a Public Credit Bureau
2. a Monitoring Register for Private Debt
3. a Central Credit Registry

Respectively, Reform 3 will introduce a Credit Expansion Observatory that will seek to function as a tool for monitoring credit expansion and will improve the readiness of the State and its relevant policies, by allowing well-informed policy-making decisions. Reform 4 focuses on the restructuring and advancement of the Hellenic Capital Market Commission's (HCMC) current IT infrastructure, allowing the effective and timely management of the data received, stored and processed in respect to capital market participants that are under HCMC's supervision.

The digitalisation of the country's financial system and capital market will be facilitated through the above IT system, which will seek to (i) increase of the state's readiness and its policies for new loans and credit expansion (ii) provide valid and reliable credit information services for assessing economic behaviour, and (iii) enhance the capital markets' supervision through the digital transformation planned by the Hellenic Capital Market Commission (HCMC), allowing for timely and well-informed interventions and enhancing economic resilience in view of future fluctuations and shocks.

By comprising 35% digital expenditures (see table 1 below) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the Regulation COM (2020) 408.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 35% to be related to digital.

Title of reform or investment	Climate (%)	Digital (%)
Strengthening the capacity of the financial system to overcome legacy challenges and finance the real economy (ID: 16957)	0%	0%
Implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance (ID: 16580)	0%	0%
New Loans Promotion-Establishment of the Credit Expansion Observatory (ID: 16576)	0%	0%
Enhanced capital market supervision and trustworthiness (ID: 16581)	0%	100%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of Component 4.4 was assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the fourth component (“Strengthen the financial sector and capital markets”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs
- Organization of publicity and awareness actions

1st element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment, software licenses and machinery. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment and licenses needed to be purchased in each investment and determination of the relative amount required
- Estimation of the relative unit costs in items for equipment or in years for the licenses based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software licenses

2nd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

3rd element: Project management, consultation and technical assistance

The cost as regards the third element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

4th element: Training and professional certification programs

The cost as regards the fourth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs included in the fourth pillar of the recovery and resilience plan is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. as well as the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

5th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the

implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one (e.g. working hours, months or years)
- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per working hour/month/year corresponding to each awareness action)

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

See relevant milestone chapter in Part 3.

COMPONENT 4.5: Promote research and innovation

1. Description of the component

Policy areas/domain: Development and innovation, should aim to enhance the growth potential and enable a sustainable recovery of the Union's economy. Those reforms and investments should also promote entrepreneurship, social economy, the development of sustainable infrastructure and transport, and industrialisation and reindustrialisation, and mitigate the effect of the COVID-19 crisis on the economy.

Summary: Greece lags in research and innovation. The aim of the component is twofold: First, to strengthen the link between science and business. This is done through a reform that increases the extroversion of the Greek ecosystem or through the European HORIZON program that promotes the cooperation of R&D ecosystems with other countries, or through the Elevate Greece platform for the emergence of newly established R&D companies.

Second, the promotion of public and private investment in R&D. Proposals include the development of the Research Create Innovate program to promote innovative ideas, the creation of a program to fund basic research in areas of significant growth. They also include upgrading the infrastructure of the country's research centers, creating a new generation of technology parks to develop collaborations between the academic research and business environment. Finally, the development of an information system that will inform the authorities in real time for physical phenomena and natural disasters will be an innovative system for civil protection.

Objective: The aim of the component is to increase public and private investment in research and development (R&D), strengthen the links between science and business, and develop a world-class pioneering R&D infrastructure. This will be achieved through a series of projects, as well as through reforms aimed at encouraging innovative companies to invest in R&D. This component will help strengthen the links between academia and the productive sector by increasing the competitiveness of Greek industry, increase the exploitation of intellectual property rights, reverse the "brain drain", strengthen the Greek start-up innovation ecosystem, and mobilise business R&D expenditure.

Reforms and investments

Reforms

- **Reform 1:** Extroversion of the research and innovation ecosystem of Greece (ID: 16621) [COFOG: 04.8]

Investments

- **Investment 1:** Research-Creat-Innovate (ID: 16971) [COFOG: 04.8]
- **Investment 2:** Creation - Expansion – Upgrade of infrastructures of research centres supervised by the General Secretariat for Research and Innovation (GSRI) (ID: 16624) [COFOG: 04.8]
- **Investment 3:** Basic & Applied Research Aid (ID: 16618) [COFOG: 04.8]
- **Investment 4:** HORIZON 2020 "Seal of Excellence": financing top innovative companies (ID: 16622) [COFOG: 04.8]
- **Investment 5:** TH2ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system (ID: 16654) [COFOG: 04.8]

Estimated cost: EUR 612 million, of which EUR 444 million (73%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

In the Commission's Final Country Report 2020, there are very important notes to be taken under consideration regarding research, innovation and development:

Strengthen the links between science and business: While Greek universities perform well in terms of research output, this is not converted into productive uses, as demonstrated by the comparatively low

number of patents⁹⁰. Furthermore, private funding for public research and development as a percentage of GDP is slowly increasing. Nonetheless, the level of public-private scientific co-publications remains comparatively low. As a policy response, the country launched the 'Research-Create-Innovate' funding scheme in 2017 to encourage business research, development and innovation and knowledge transfer.

While employment in research and development activities is increasing, the loss of skilled human capital is a major challenge for the Greek research and innovation system. In recent years, the number of people engaged in research and development activities has increased overall; while the increase for research was notable⁹¹. However, the brain drain continues to be one of the most important challenges⁹². Policy initiatives such as the establishment of the Hellenic Foundation for Research and Innovation, to promote research activity and support new researchers, and the Knowledge Bridges, which maps the profiles of highly skilled Greek professionals abroad and supports networking, are steps in the right direction.

Promote public and private investment in R&D: Although Greece has improved its innovation performance, it continues to be a 'moderate innovator'. By a variety of metrics, Greece is one of the countries with the lowest business dynamism in the EU. Creation and diffusion of innovation is a key driver of productivity growth. Greece ranked among the lowest countries in the Commission's 2019 European Innovation Scoreboard⁹³. It performs particularly well on innovation in small and medium enterprises and on the linking of these enterprises with others. Greece is also doing well in increasing its share of employment in fast growing innovative sector businesses and in knowledge-intensive activities. However, Greece lags behind in terms of creating an innovation-friendly environment with adequate levels of finance and support.

Public and private spending on research and development has been steadily increasing since 2010, but is still relatively low. In recent years, Greece is approaching its national target of research and development intensity set for 2020⁹⁴. Despite this increase, Greece remains below the EU average⁹⁵. The business sector continued to be the largest contributor to total spending, of which two thirds came from the service sector⁹⁶.

Furthermore, innovation performance in Greece has not yet reached its full potential. Greece has integrated Smart Specialisation Strategies in its innovation policy framework⁹⁷. According to the latest Community Innovation Survey⁹⁸, a high percentage of Greek businesses engage in innovative activity, above the EU average, pointing to a relatively high engagement of businesses in the innovation process. However, large disparities in innovation capacities remain, due to lack of robust governance, including low administrative capacity and weak coordination mechanisms. In this context, Greece is faced with particular challenges in developing adequate responses for the territories most likely to be affected by

⁹⁰ 11 Patent Cooperation Treaty patents per population in 2014 versus an EU average of 102

⁹¹ European Commission, 2018d, provisional

⁹² Chapter 4.3 and Amanatidou et al, 2020

⁹³ European Commission, 2019e

⁹⁴ The target was set in Greece's 2019 national reform programme and was revised upwards from 1.2% of GDP.

⁹⁵ European Commission, 2019j

⁹⁶ OECD, 2017

⁹⁷ Smart specialisation is set as an ex-ante conditionality in the cohesion policy (2014-2020) policy framework, requiring every Member State and region to have a well-developed strategy in place as a prerequisite for receiving any EU Structural Funds support for their planned innovation measures. In this context, Greece developed a centrally administered national research and innovation smart specialisation Strategy (RIS3), and 13 regional strategies, which were approved in 2015.

⁹⁸ European Commission, 2019f

the industrial transition towards sustainability⁹⁹. Finally, innovation provides increase in situational awareness, supports decision making capabilities and enhances the coordination and synchronization of all relevant competent authorities.

b. Objectives

The overall objective of the component is to increase public and private spending on research and development (R&D), promoting investments in R&D, strengthening the links between science and businesses and developing world-class, cutting-edge R&D infrastructure. This objective is going to be attained through actions focusing on key reforms for incentivising innovation companies to invest in R&D, as well as important investments that enable the collaboration of scientists and businesses and promote the modernisation and development of state-of-the-art R&D infrastructure.

Furthermore, 'Ellada Mprosta' programme includes reforms such as implementation of Elevate Greece (compilation of the National Register of start-ups for the monitoring and support of the innovation ecosystem) and a modern research and innovation framework, aiming at enhancing the country's R&D environment.

This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020. Specifically:

(i) Reform 1 aims at addressing recommendation 2:2019/2020 focusing on investment-related economic policies on R&D.

(ii) Investment 1 aims at addressing recommendation 2:2019/2020 focusing on investment-related economic policies on R&D and recommendation 2:2020 through mitigating the employment and social impacts of the covid-19 pandemic.

(iii) Investment 2 aims at addressing recommendation 2:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery.

(iv) Investment 3 aims at addressing recommendation 2:2020 through mitigating the employment and social impacts of the covid-19 pandemic and recommendation 2:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 by focusing on investment-related economic policies on R&D.

(v) Investment 4: aims at addressing recommendation 2:2020 through mitigating the employment and social impacts of the covid-19 pandemic and recommendation 2:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 by focusing on investment-related economic policies on R&D

(vi) Investment 5: aims at addressing recommendations 3:2020 through mitigating actions to Improve the effectiveness and digitalisation of the public administration.

Specific objectives of this component include the following:

1. Enhance the links between academia and the productive sector

The actions within this component aim at creating strong links between academia and business, transform the Greek industry into a highly competitive player and mobilise R&D spending by enterprises, local and

⁹⁹ During the 2021-2027 European Regional Development Fund programming period, all Member States will have to demonstrate preparedness to manage industrial transitions.

multinationals. More specifically, Investment 2, 3 and 4 aim at Greece achieving additional recruitment by existing or new innovative companies, to create new incentives for establishing R&D centres in the country and therefore mitigate the social and economic impact of the crisis. Furthermore, the creation of new research facilities and the creation of state of the art technological centers will help Greece to boost competitiveness and innovation in line with the 2020-2021 National Reforms Plan as well as the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides and incentivise business research. Furthermore, the main objective of Investment 1 is to link research and innovation with entrepreneurship by enabling the application of research, technological development and innovation projects submitted by either individual companies, or groups of companies, or by companies in partnerships with research organisations.

The development of research centers aim to establish well known R&D centers with professors from all over the world which will make the best use of the existing well developed innovation ecosystem of Greece by combining the universities, research institutions and of many small and large companies developing international activity and collaborations.

2. Increase investment in research and development and Improve innovation performance

All proposed reform and investments either implicitly or explicitly aim to increase investments in research and development in line with the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides. Reform 1 aims at promoting the research and innovation ecosystem of Greece. Transnational cooperation and European partnerships for R&D projects involve high exposure to private sector companies which can mobilise private investment in R&D. Investments 1, 2 and 3 aim to create a direct link of the enterprise sector with the R&D community of research centers or universities building stronger ties between private and public sector in R&D. Moreover, Investment 4 aims to support innovatives ideas awarded with the Seal of Excellence to find the required funding in order to continue their work.

Furthermore, this component aims at the creation and diffusion of innovation from enhanced and stronger Research Centers, aiming to employ top researchers who will work closely with the Private Sector and Increase IPR exploitation (patent filings, licensing, Spin-offs). Investment 3, in line with the 2020 National Growth Plan, allows for the development of R&D infrastructure where research laboratories will be co-located and will collaborate with R&D departments of large companies in six cutting-edge sectors. This investment includes the renovation of existing research and innovation hubs.

Finally, the creation of state-of-the-art technology pockets in individual sectors is of utmost priority for the R&D sector and in line with the Growth Strategy of Greece. Reform 1 through direct investment in the extroversion of the Greek ecosystem incentivises and attracts young scientists back to Greece. Furthermore, the Elevate Greece platform initiative, in line with the 2020-2021 National Reforms Plan allows for the home ecosystem of start-ups to be registered, incentivised and network effectively. Investments 3 and 4 build a long-term competitive advantage and a 'deep-tech' innovation ecosystem in the fields of basic research as well as in the startup scene which is effectively tackling 'brain drain' through repatriation of Greek scientists in connection with the Recovery Plan for the Greek Economy. Last but not least investment 5 will connect state of the art technologies with civil protection. This upcoming innovative technology will provide to Civil Protection and the related authorities all the required data in order to support them in decision making for the citizens protection.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Reforms

Reform 1: Extroversion of the research and innovation ecosystem of Greece (ID: 16621)

b. Investments

Investment 1: Research-Create-Innovate (ID: 16971)

Investment 2: Creation - Expansion – Upgrade of infrastructures of research centres supervised by the General Secretariat for Research and Innovation (GSRI) (ID: 16624)

Investment 3: Basic & Applied Research Aid (ID: 16618)

Investment 4: HORIZON 2020 “Seal of Excellence”: financing top innovative companies (ID: 16622)

Investment 5: TH2ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system (ID: 16654)

4. Open strategic autonomy and security issues

Non applicable

5. Cross border and multi country projects

Non applicable

6. Green dimensions of the component

Non applicable

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan’s total allocation to contribute to the digital transition or to the challenges resulting from it.

Digitalisation is stimulating innovation across all sectors of the economy. Science and research are no exception, and they are in the process of adapting to make sure they make the most of this transformation. Especially through advanced digital technologies, increased collaboration, coordination and synchronization of all relevant competent authorities, in real time and on a 24/7 basis, for the whole Greek territory at an interdisciplinary and an inter-ministerial level is envisaged to be accomplished through the implementation of the proposed investment entailed under the present component, namely ‘TH2ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system’.

The investment will contribute towards the digitalisation of the Ministry of Citizen Protection methods in order to have a quick and efficient reaction for civil protection. The proposed intervention is instrumental to the transformation of Greece into a digitised modern and safe society, generating important spillover effects including the strengthening of Civil Protection methods for prevention and rescue through the implementation of state of the art innovative system, which will provide live data to authorities and will support them in decision making. Such initiative is expected to transform the Greek protection methods by providing a “digital reboot” and significantly boost annual GDP growth during a course of 5-10 years.

By comprising 17% of digital expenditures (see Table - 1), this component contributes to the abovementioned digital target of 20%.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU.

Title of reform or investment	Climate (%)	Digital(%)
Extroversion of the Research and Innovation Ecosystem of Greece (ID: 16621)	0%	0%
Research - Create - Innovate (ID: 16971)	0%	0%
Creation - Expansion – Upgrade of Infrastructures of Research Centres supervised by the General Secretariat for Research and Innovation (GSRI) (ID: 16624)	0%	0%
Basic & Applied Research (ID: 16618)	0%	0%
HORIZON 2020 “Seal of Excellence”: financing top innovative companies (ID: 16622)	0%	0%
TH2ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system (ID: 16654)	100%	100%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation.

Each one of the investments and reforms of the Renovation component were assessed on the checklist to identify if and which of the six environmental objectives required a substantive DNSH assessment. The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the fifth component (“Promote Research and Innovation”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Construction of new building or renovation of existing buildings
- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs
- Organization of publicity and awareness actions
- Subsidies on proposals

1st element: Building construction or renovation

The relative costing of the investments as regards the first element derives from the construction of new building or the renovation of existing buildings and the installation of renewable energy and waste management systems. The cost parameters of these investments mainly include the fees charged for the construction works and the cost for the purchase of the required construction material. The costs estimates are based on the following parameters:

- Specification of the surface of the building area in each project (measured in square meters)
- Estimation of the unit costs related to the construction works (unit costs per square meter) based on the relevant market rates

- Calculation of the overall costs required per project, derived from the estimated costs of the overall construction works (including also the cost for all the required electrical and mechanical installations)

2nd element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment, software licenses and machinery. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment and licenses needed to be purchased in each investment and determination of the relative amount required
- Estimation of the relative unit costs in items for equipment or in years for the licenses based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software licenses

3rd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

4th element: Project management, consultation and technical assistance

The cost as regards the fourth element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

5th element: Training and professional certification programs

The cost as regards the fifth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. and the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

6th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one (e.g. working hours, months or years)
- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per working hour/month/year corresponding to each awareness action)

7th element: Subsidies on proposals

This element includes the costs derive from the subsidies on proposals aim to promote research, development and innovation. The costs derived from this element are estimated on the basis of the following parameters:

- Examination of relative historical costs on similar projects in Greece
- Analysis of benchmarks concerning similar European projects
- Analysis of the cost categories per project, estimation of the relative cost corresponding to each parameter and determination of the overall cost per proposal

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 4.6: Modernise and improve resilience of key economic sectors

1. Description of the component

Policy areas/domain: Smart sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong small and medium enterprises (SMEs), should aim to enhance the growth potential and enable a sustainable recovery of the Union's economy. Those reforms and investments should also promote entrepreneurship, social economy, the development of sustainable infrastructure and transport, and industrialisation and reindustrialisation, and mitigate the effect of the COVID-19 crisis on the economy.

Summary: This component includes reforms and investments aiming to improve the competitiveness of key sectors of the Greek economy namely tourism and culture, agriculture, manufacturing and aquaculture. The component also includes investments in infrastructure projects that are related to the country's transport system aiming at improving its competitiveness.

The proposed measures in each sector aim to achieve these objectives through the following:

In culture, a necessary investment of the infrastructure and equipment of ODAP stores is promoted in order to improve the services provided. Culture must function as a driving force for the economic and strategic development of the cultural and creative industries. Significant actions are being taken to protect against climate change, which will protect the country's cultural heritage through infrastructure projects to prevent and restore the country's monuments, as well as to renovate and utilise emblematic buildings and paths for cultural exploitation. These actions are the connecting link for supporting social cohesion through the connection of culture with tourism. In order to diversify the Greek tourism portfolio, reduce seasonality and increase revenue, there is also a systematic promotion of thematic and alternative forms of tourism such as mountain, gastronomy, wellness tourism, maritime tourism and related activities and actions are strengthened with accessible infrastructure.

In agri-food, actions are promoted regarding efficient production methods that increase the quality and competitiveness of Greek products. In addition, research and innovation actions are promoted, market orientation is strengthened as well as the ability to penetrate international markets in order to transform the sector economically. A key element of investment is the introduction of digital technologies. The proposed investments reduce the industry's impact on the environment and climate change while promoting research and innovation through innovation and new environmentally friendly product processing methods.

In manufacturing, by accelerating the Industry 4.0 transformation agenda, the sector of smart production in Greece and the development of a new generation of industrial parks. Investments are focused on developing new or upgrading existing production lines to improve industry competitiveness. Emphasis is placed on advanced and digitally controlled industrial equipment, production control systems and the development of industrial partnerships to enhance production and cooperation in the industrial ecosystem.

Infrastructure promotes digital transformation and smart infrastructure in order to develop high quality, multimodal, climate-resistant, smart and sustainable infrastructure and transport systems. The purpose of the investments is both the control and maintenance of the infrastructures as well as their modernization with user-friendly functions. The transport system is equally important for the component and through the development of the railway network, both the businesses and the residents of the areas of the network will be strengthened. Investments that will enhance road safety are also promoted.

The component is also expected to affect the business environment in general through actions of digital transformation of structures and tools of public administration as well as amendments in the legal framework, thus boosting Greek entrepreneurship and attracting new strategic investments. In essence, these reforms will support businesses to grow both in size and to develop a more export - oriented and growth - oriented outlook.

Regarding Contemporary Culture, the component promotes a reform aimed at defining the professional qualities and outlines for professionals in the art creation industry and measures to support the better integration of these professionals into the economy.

At the same time, investment actions are aimed at enhancing the education and training of professionals in artistic creation through a targeted training program in new skills (mild, digital) with the aim of strengthening the industry in acquiring extroversion and networking with significant financial and professional benefits. At the same time, the modernisation of the curricula of the higher state schools of art education is promoted in order to meet European standards and good practices that upgrade both the provided education and the degree.

The component also includes an important intervention for the adoption of culture and art in the practices of treatment and cure of mental disorders and the defense of well-being and the protection of mental health. Along with the criterion of the silver economy and ensuring equal access of the elderly to the places of culture, a program of accessibility of infrastructure and the creation of programs for the specific age group is described.

Finally, the component includes a significant investment that encourages the development of Modern Culture through the strengthening of local tradition, the support of local communities and wider areas with strong cultural interest and tradition, the support of domestic cinema and its wider promotion, communication and promotion of the cultural product of the country.

Objective: Through a set of wide-ranging investments and reforms, the aim of the component is to improve the competitiveness, productivity and resilience of key economic sectors, namely tourism, culture, agriculture, manufacturing and aquaculture as well as improve national transportation, logistics infrastructure and promote the export orientation of the economy. This will be accomplished through a series of investments that contribute to the reinforcement of the country's competitiveness in the aforementioned sectors, by linking important economic clusters and by addressing geographical and regional disparities.

These are complemented by actions aiming at increasing productivity and competitiveness, as well as promoting the export orientation of the economy.

Reforms and investments

Reforms

- **Reform 1.** Labour Reform in the Cultural Sector (ID: 16715) [COFOG: 08.2]
- **Reform 2.** Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport (ID: 16937) [COFOG: 01.6]
- **Reform 3.** Simplification of the Procedures of the Ministry of Infrastructure & Transport (ID: 16786) [COFOG: 01.6]
- **Reform 4:** Trade facilitation (ID: 16592) [COFOG: 01.1]
- **Reform 5:** Amendment of the legal framework for the attraction of strategic investments (ID: 16593) [COFOG: 04.7]
- **Reform 6:** Digitalisation of Economic Diplomacy Network - "Digital Economic Diplomacy Network" (ID: 16599) [COFOG: 01.1]
- **Reform 7:** Organisational reform in the railways sector (ID: 16982)

Investments

- **Investment 1.** Skill building for creative and cultural professionals (ID: 16723) [COFOG: 08.2]
- **Investment 2.** Culture as a driver of growth (ID: 16293) [COFOG: 08.2]
- **Investment 3.** Utilising "arts on prescription", promoting social cohesion, and tapping on the silver economy (ID: 16735) [COFOG: 08.6]
- **Investment 4.** Upgrading higher arts education (ID: 16725) [COFOG: 08.2]
- **Investment 5.** Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by the HOCRED Stores - former ARF Stores (On-spot and electronic) (ID: 16536) [COFOG: 08.6]
- **Investment 6.** Museum of Underwater Antiquities (ID: 16486) [COFOG: 08.2]
- **Investment 7.** Protection of cultural monuments and archeological sites from climate change (ID: 16433) [COFOG: 08.2]
- **Investment 8.** Highways for Nature and Climate (ID: 16970) [COFOG: 08.2]
- **Investment 9.** Cultural Routes at emblematic archeological sites and monuments (ID: 16485) [COFOG: 08.2]
- **Investment 10.** Restoration - Conservation - Enhancement of the Acropolis Monuments (ID: 16435) [COFOG: 08.2]

- **Investment 11.** Tourism Development (ID: 16931) [COFOG: 04.7]
- **Investment 12:** Reskilling and Upskilling in Tourism (ID: 16921) [COFOG: 09.5]
- **Investment 13.** Digitalisation of the Agri-food sector (ID: 16653) [COFOG: 04.2]
- **Investment 14.** Economic transformation of the agricultural sector (ID: 16626) [COFOG: 04.2]
- **Investment 15.** Proposals for actions in the aquaculture sector (ID: 16584) [COFOG: 04.2]
- **Investment 16.** Accelerating of smart manufacturing (ID: 16721) [COFOG: 04.4]
- **Investment 17.** New Industrial Parks (ID: 16634) [COFOG: 04.4]
- **Investment 18.** Smart infrastructure with environmental and cultural focus (ID: 16960) [COFOG: 04.7]
- **Investment 19.** Road Safety Upgrade (ID: 16631) [COFOG: 04.5]
- **Investment 20.** Cretan Northern Highway (B.O.A.K.) (ID: 16630) [COFOG: 04.5]
- **Investment 21.** Intervention for the upgrade and redeployment of the Greek railway network system and infrastructure (ID:16954) [COFOG: 04.5]
- **Investment 22.** EASA compliance Program (ID: 16833) [COFOG: 04.5]
- **Investment 23.** Smart Bridges (ID: 16949) [COFOG: 04.5]
- **Investment 24.** Upgrading suburban railway of West Attica (ID: 16892) [COFOG: 04.5]
- **Investment 25.** Electronic Tolls (ID: 16950) [COFOG: 04.5]
- **Investment 26.** Digital Transformation of the Hellenic Railways Organisations (ID: 16959), [COFOG: 04.5]
- **Investment 27.** Central Greece Highway E-65: Trikala - Egnatia Section (ID: 16628), [COFOG: 04.5]
- **Investment 28.** Master plan for the renewal of the Greek passenger shipping fleet (ID: 16944), [COFOG: 04.7]
- **Investment 29:** Upgrade Interventions for Regional Ports (ID: 16975)

Estimated cost: EUR 7,233 million, of which EUR 3,743 million (52%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

Improve the competitiveness and resilience in the culture sector: Culture sector is facing a high percentage of undeclared labour. At the same time, the Greek cultural and creative sector is facing key systemic issues regarding the overall employment policies and practices, the protection of intellectual property as well as the upgrade of higher art education in Greece and skill building in the cultural and creative industries. In culture, an ambitious reform of tax and labour practices with the aim of shielding the industry, empowering professionals and reducing undeclared and uninsured work, is being deployed. For that purpose the Register of Employees in the Cultural and Creative Sector is established among other actions. Although the growth dynamic and potential of the cultural sector is well documented in numerous international and European reports¹⁰⁰. Greece has not invested in the strategic development of the Cultural and Creative Industries (CCIs). Being at the crossroads between arts, business and technology, CCIs are in a strategic position to trigger spillovers in other industries.

Culture and creativity have also direct impacts on sectors such as tourism and are integrated at all stages of the value chain of other sectors such as fashion and high-end industries, where their importance as key underlying assets is increasing. Many recent studies have shown that CCIs represent highly innovative companies with a great economic potential and are one of Europe's most dynamic sectors. However, there is a lack of training imparted to students of arts and culture to help them to orient their skills towards

¹⁰⁰ Culture and Local Development report (OECD, 2018), the Measuring the Economic Contribution of Cultural Industries report (UNESCO, 2012)

the demand in the market. Due to a gap between the skills and the industry requirements, oftentimes they are not able to develop industry-specific skills and competencies that would enhance their employment opportunities and business sustainability.

Furthermore, connecting culture with well-being and tourism is an area where Greece can do better. Many studies point out that older people today have different characteristics than in the past: they are healthier, spend more money, travel more often, and stay longer in destinations away from their place of residence. Still, seniors require good quality services. Cultural experiences, services and products are an integral part of the tourist experience they seek. In addition, consumption of cultural goods and participation in cultural activities has been recognised both as a medium to prevention and treatment of mental illness ¹⁰¹

Develop tourism and diversify the touristic product: The tourism sector, one of the main service export sectors has benefited from the unstable geopolitical situation in main competitor countries in recent years. As the number of tourists seems to have reached a plateau, growth appears to mainly be due to longer stays, more quality infrastructures and higher expenditure per tourist ¹⁰². According to the latest European Semester report, Greece's regional disparities significantly widened in the past decade and remain large. There is an uneven distribution of the pandemic consequences across Greek regions and different specialisation patterns especially regarding reliance on tourism. In line with the general objective of the plan to mitigate the social and economic impact of the crisis, regional tourism can stimulate investment inflows and ameliorate employment perspectives in these areas where these pandemic consequences were widely felt. Main challenges affecting the realisation of investments is the fragmented and over parameterised legal and regulatory framework, for the licensing, construction and operation of infrastructure required for regional tourism, including ski and sports infrastructure and gastronomy tourism.

The strategic goal of improving the touristic product goes through reskilling and upskilling employees of the sector, through the upgrade of sector-specific training programs and e-learning opportunities.

Furthermore, an immediate requirement towards upgrading tourism is to promote accessibility and ensure that the touristic activities are equally accessible to people with special needs as well as other people who may benefit from accessible infrastructures, such as elderly people. In addition, there is a need to cooperate with the National Confederation of Persons with Disabilities (ESAmE) as well as with the National Action Plan on the Rights of Persons with Disabilities. Last but not least, the development of Tourism has also focused on the main tourist product in Greece which is our islands and their ports. The development in this area is necessary since it will make ports more attractive to tourists with state of the art infrastructures and it will have a positive impact on the country's GDP.

In addition, tourism development requires high standards and safe infrastructures of the tourist ports. Since the touristic product is developing at a significant rate, it is important to focus on the remediation of the climate change impact on regional ports and the upgrading of aging and degraded port infrastructures especially in small and medium sized ports. Moreover, developing islands' marine connection further contributes to the rise of tourism activity and consequently islands' employment and growth, as their economic development markedly relies on tourism. Finally the strategic development of the greek islands required investments which are taking into account the current complexities such as the fullness of the greek fleet.

¹⁰¹ World Health Organisation 2019 report, Arts for Health and Wellbeing, British Parliament 2017

¹⁰² Communication COM (2020) 150

Transform the agricultural and aquaculture sector: According to European Commission's guidelines there is a need to simplify and modernise the common agricultural policy, to better respond to the emerging economic, environmental and social challenges that the agricultural sector is facing and which are only reinforced by the current crisis arising from the covid-19 pandemic. In that context the need to promote policies and investments that aim to the improvement and restructure of the Agricultural sector is of utmost priority. Furthermore, The EU Strategic plans concerning agricultural development in Greece highlight the need to continue to offer a wide range of tools beneficial for the environment and climate.

Considering the size of the sector, investments into more efficient and digital production methods, promotion of producer organisations and cooperatives, re-orientation to products with higher added value could turn the sector into a significant driver of growth. According to the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides, Greece can do better in products coming from agriculture, such as wine and specialised small products with high added value and can perform better in markets with affluent consumers to further develop high value-added agriculture and its luxury products. Further guidelines from the Commission include that there is a need to simplify and modernise the common agricultural policy, to better respond to the emerging economic, environmental and social challenges that the agricultural sector is facing and which are only reinforced by the current crisis arising from the covid-19 pandemic.

Therefore, the government is working on a series of reforms with the aim of strengthening the status of the Greek farmer and facilitating the agricultural profession activity. The introduction of the Integrated National Planning which includes, inter alia, prioritisation of projects at the central level and termination of fragmentary projects that are not part of the general design, creation of smart irrigation networks throughout Greece utilising modern common network management technology and financial and operational planning (Component 1.4) leads to sustainable agriculture that responds to the challenges of climate change, but also to the needs of local communities. In the same direction, the preparation of management plans for pasture lands, the simplification of the licensing process of livestock facilities and the simplification of the legal framework for the establishment, operation and control of the organised development areas of Aquaculture improve the development of agriculture, livestock and aquaculture. Moreover, the primary sector is further protected by incorporating a directive to tackle unfair commercial practices, strengthening the control mechanisms of food fraud and Greek naturalisation and reforming of the sanctions' framework.

Aquaculture is one of the main pillars of the Blue Growth Strategy (Blue Growth, Green Deal, Farm to Fork) and sustainable aquaculture development is one of the main priorities of the EU. There are several factors highlighting aquaculture as one of the key productive sectors where Greece possesses competitive advantages and dynamic potential for economic growth in the framework of smart specialisation strategies. In addition, aquaculture products head Greece's export goods, confirming the extroversion of the sector, its contribution to the real economy and its outlook for further development¹⁰³. In both the current and the approved new Common Fisheries Policy, aquaculture is paramount and promotes sustainable development. However, aquaculture is one of the sectors affected by the outbreak of the covid-19 pandemic at the European and Greek economic level, therefore immediate actions should be taken to promote the development of the sector.

Reverse the de-investment of the Greek industry: The financial recession kept the industrial investments at their lowest levels. That was expected since medium- and long-term investments require a relatively stable and clear economic environment. The Greek manufacturing industry must follow the international developments, investing in modern technologies, advanced information systems and automation. The

¹⁰³ European Maritime and Fisheries Fund (EMFF)

digital modernisation of manufacturing companies requires in addition to physical capital investments the restructuring of the current operating model as well as upskilling of human capital. It furthermore requires a long-term strategy to improve connectivity infrastructure, create collaborative platforms for technological innovation, and improve the regulatory framework. Moreover, based on the status of the Greek economy, and the international trends that affect it - and mainly due to the COVID-19 pandemic - Greek industry is trying to harmonize its development actions with the general direction in which the Greek economy moves. New industrial parks are expected to be a strong pillar which will achieve the strong growth in the medium term, in an expanded economic context of growth trajectory, through proposed actions, as summarized in the Interim Report, the "Development Plan for the Greek Economy". The investment for new industrial zones aims to address significant challenges that pointed through the European Semester. The challenges are:

- Accelerating mature public investment projects and promoting private investment,
- Long-term development,
- Circular economy, including waste prevention and recycling; since more construction materials will be needed to implement this component, circularity principles are incorporated in the design phases of renovation and construction, and reuse as well as recycling platforms for construction materials and demolition waste are foreseen. Prevention of construction waste is supported and given priority, as indicated by the waste hierarchy,
- Small-scale projects in the field of energy efficiency,
- Buildings renovation,
- Renewable energy projects,
- Improving digital performance through the use of digital tools and services in public administration and business.

International competition in manufacturing requires the reduction of production costs through the introduction of advanced technologies, as well as the development of innovative high quality products. Success in these fields requires R&D activities. Expenditures in R&D are low in Greece compared to other European countries. For example, in 2018, Greek companies' R&D expenditure was 0.57% of GDP, compared to the EU average of 1.41%. The development of innovative practices and products requires specialised and trained human resources and can be favored by foreign direct investment in high-tech areas that will attract skilled manpower. Similarly, the development of partnerships with the participation of domestic manufacturing companies in international value chains contributes to the acquisition of specialised knowledge and know-how, while enhancing the potential for innovation, especially for smaller companies. In addition, strategically important international manufacturing partnerships act as a catalyst for investment in high value-added cross-border projects for the country, while the domestic manufacturing industry gains high international competitiveness.

Improve transportation infrastructure: As per the latest European Semester report, Greece is a country with significant regional disparities, with half of the population and two thirds of its economy concentrated in the capital region. Given the sparse population and the morphology of the country, with its mountains and islands, ensuring connectivity with and opportunities for the peripheral regions requires substantial strategic planning. At the moment, the Greek transport system faces significant challenges. Transport costs are still high while the quality of service, safety standards and penetration of intelligent transport systems are in need of further improvement and new investments are needed to increase multimodal transport, promote regional integration and urban development and improve road safety which is still below than the EU average¹⁰⁴. Moreover, the interventions for the upgrade and

¹⁰⁴ COM (2020) 250

redployment of the Greek rail network system and infrastructure will contribute to economic resiliency and growth. The investment enables the enhancement and development of key trade relationships within the country and internationally, promoting the development of the primary production sector and boosting the exports of the country. Also, provides a more sustainable and green way for transport. In order to support the growth of the rail sector Ministry focuses to become more efficient, integrated, modern and responsive to customer demand and also Ministry addresses European Union's priority for building a modern, competitive railway network for the smooth operation of the internal market and for the development of a sustainable transport system.

In addition, as per the latest 2020 European Semester report, upgrading regional infrastructure including regional airports and ports would increase performance of exports and would create sizable investment opportunities in key sectors including tourism, logistics and transport.

Weaknesses in the export promotion framework. Greek products have a lower than average market price making it difficult for Greek companies to compete for niche foreign markets by offering high quality products at above the average prices. Such weaknesses are aggravated by the insufficient digitalisation of the economic diplomacy network, while customs procedures are highly complicated, creating unnecessary administrative burden and implying costs to companies.

b. Objectives

The overall objective of the component is to improve the competitiveness, productivity and resilience of key economic sectors, namely tourism, culture, agriculture, and aquaculture as well as improve national transportation and logistics infrastructure. This objective is going to be attained through actions focusing on reforms and investments that contribute to the reinforcement of the country's competitiveness in these sectors. This objective is analysed into specific goals that are fully in line with the recommendations addressed to Greece by the Council in 2019 and 2020. Specifically:

(I) Reform 1. Tax and labour Reforms in the Cultural Sector 16715 aims at addressing recommendation 2:2020 mitigating the employment and social impacts of the covid-19 pandemic

(II) Reform 2. Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport 16937 aims at addressing recommendation 3:2020 mitigating the effectiveness and digitalisation of the public administration and promote digital transformation of businesses

(III) Reform 3. Simplification of the Procedures of the Ministry of Infrastructure & Transport 16786 aims at addressing recommendation 3:2020 mitigating the effectiveness and digitalisation of the public administration and promote digital transformation of businesses

(IV) Reform 4. Trade facilitation 16592 aims at addressing recommendation 3:2020 through promoting private investment and increasing the efficiency of the public sector.

(V) Reform 5. Amendment of the legal framework for the attraction of strategic investments 16593 aims at addressing recommendation 3:2020 through promoting private investment through emblematic investments of strategic significance, and also through the amendment of the respective legal framework related to the attraction of strategic investments.

(VI) Reform 6. Digitalisation of Economic Diplomacy Network - "Digital Economic Diplomacy Network" 16599 aims at addressing recommendations 1:2019 and 1:2020, as well as recital 16:2020, seeking to enhance the Greek enterprises' export orientation through relevant capacity building activities as well as other targeted interventions and investments that utilise modern tools and technologies.

(VII) Reform 7. Organisational reform in the railways sector 16982 at addressing recommendation 2:2019 focusing on reforms -related economic policies on transport and logistics

(VIII) Investment 1. Skill building for creative and cultural professionals 16723 aims at addressing recommendation 2:2020 mitigating the employment and social impacts of the COVID-19 crisis and recommendation 2:2019 focusing on investment-related economic policies on skills.

(IX) Investment 2. Culture as a driver of growth 16293 aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery.

(X) Investment 3. Utilising “arts on prescription”, promoting social cohesion, and tapping on the silver economy 16735 aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities.

(XI) Investment 4. Upgrading higher arts education 16725 aims at addressing recommendation 2:2020 mitigating the employment and social impacts of the COVID-19 crisis and recommendation 2:2019 focusing on investment-related economic policies on skills.

(XII) Investment 5. Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by the HOCRED Stores - former ARF Stores (On-spot and electronic) 16536 project aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities

(XIII) Investment 6. Museum of Underwater Antiquities 16486 aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities

(XIV) Investment 7. Protection of cultural monuments and archeological sites from climate change 16433 project aims at addressing recommendation 3:2020 through foster the economic recovery and focus in investments on the green and digital transition, in particular environmental infrastructure and very-high capacity digital infrastructure and recommendation and 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities

(XV) Investment 8. Highways for Nature and Climate 16970 project aims at addressing recommendation 3:2020 through foster the economic recovery and focus in investments on the green and digital transition, in particular environmental infrastructure and very-high capacity digital infrastructure and recommendation and 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities

(XVI) Investment 9. Cultural Routes at emblematic archeological sites and monuments 16485 project aims at addressing recommendation 3:2020 through foster the economic recovery and focus in investments on the green and digital transition, in particular environmental infrastructure and very-high capacity digital infrastructure and recommendation and 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities

(XVII) Investment 10. Restoration - Conservation - Enhancement of the Acropolis Monuments 16435 project aims at addressing recommendation 3:2020 through foster environmental infrastructure and 2:2019 focusing on investment-related economic policies on the renewal of urban areas

(XVIII) Investment 11. Tourism Development 16931 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on the renewal of urban areas, taking into account regional disparities and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery.

(XIX) Investment 12. Upskilling and Reskilling in Tourism 16921 aims at designing and delivering a dedicated program of upskilling and reskilling in the tourism sector, for seasonal workers, the long-term unemployed as well as the employees whose contract was suspended due to the effect of COVID-19 on the operation of businesses. Apart from acting as a safety net, the program - which will be in line with the National Skills Strategy - will contribute to smoothing the transition of the tourism sector in the post-COVID-19 era.

(XX) Investment 13. Digitalisation of the agrifood sector 16653 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on digital technologies and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery focusing on digital infrastructure.

(XXI) Investment 14. Economic transformation of the agricultural sector, 16626, aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 focusing on investment-related economic policies on environmental protection

(XXII) Investment 15. Proposals for actions in the aquaculture sector 16584 aims at addressing recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery and recommendation 2:2019 focusing on investment-related economic policies on environmental protection

(XXIII) Investment 16. Acceleration of smart manufacturing 16721, aims at addressing recommendation 2:2019 focusing on investment-related economic policies on digital technologies and on environmental protection and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery.

(XXIV) Investment 17. New Industrial Parks project 16634 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on digital technologies and on environmental protection and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery.

(XXV) Investment 18. Smart infrastructure with environmental and cultural focus 16960, aims at addressing recommendation 2:2019 focusing on investment-related economic policies on digital technologies and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery focusing on digital infrastructure.

(XXVI) Investment 19. Road Safety Upgrade project 16631 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics.

(XXVII) Investment 20. Cretan Northern Highway (B.O.A.K.) project 16630 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and

recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics.

(XXVIII) Investment 21. Intervention for the upgrade and redeployment of the Greek railway network system and infrastructure project 16954 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics

(XXIX) Investment 22. EASA compliance Program project aims 16833 at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics

(XXX) Investment 23. Smart Bridges project aims 16949 at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics

(XXXI) Investment 24. Upgrading suburban railway of West Attica project aims 16892 at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics

(XXXII) Investment 25. Electronic Tolls project aims 16950 at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics

(XXXIII) Investment 26. Digital Transformation of the Hellenic Railways Organisations 16959 project aims at addressing recommendation 3:2020 mitigating the effectiveness and digitalisation of the public administration and promote digital transformation of businesses

(XXXIV) Investment 27. Central Greece Highway E-65: Trikala - Egnatia Section project aims 16628 at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics.

(XXXV) Investment 28. Master plan for the renewal of the Greek passenger shipping fleet 16944 aims at addressing recommendation 2:2019 focusing on investment-related economic policies on transport and logistics and recommendation 3:2020 through front-load mature public investment projects and promotion of private investment to foster the economic recovery on safe and sustainable transport and logistics.

(XXXVI) Investment 29. Upgrade Interventions for Regional Ports project aims 16975 at addressing recommendation 2:2019 and 3:2020 front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on safe and sustainable transport

Specific objectives of this component include the following:

Improve the competitiveness and resilience in the culture sector: Realising the important economic benefits of the cultural and creative sector as well as the fact that this component includes a set of investments (1,2,3) in order to support the culture and arts towards this direction. In addition, investment 8 aims to increase the resilience of organisations in cultural and creative industries by promoting declared work, as well as to upgrade the state art education institutions with regards to the national qualifications framework in line with the overall objective of the plan for social resilience. Investment 4 develops and provides tools for strengthening the structures of the bodies of the sector and upskill the individuals in the field. The improvement of the cultural sector will be increased also through a series of investments. Significantly investment 5, aims to expand the network of stores inside and outside archaeological sites and museums, operation of an e-shop, upgrade of infrastructure and equipment, renewal and expansion of products, as well as modernization of their operating mode. Therefore, the upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided is necessary both to increase revenue and to improve the services provided to visitors. Investments 6, 7 and 10 will contribute to the green transition, the economic, social and territorial cohesion & convergence. Moreover, the protection of selected cultural heritage sites and monuments, through the implementation of targeted projects and the construction of tailored infrastructures for the prevention of specific climate risks and associated dangers related to climate change. At the same time, secondary objectives are to a) evaluate and measure the impact that climate change has on the Greek archeological sites and monuments through the detailed (spatially and temporally) assessment of critical parameters such as exposure, sensitivity, adaptive capacity and vulnerability, also taking note of observations as well as climate estimates for the future period and b) the development of a system for the regular and timely monitoring of the effects of climate change on archeological sites and monument. Last investments 8 and 10 increase the accessibility and the digital footprint of world class cultural heritage monuments and natural sites aiming at supporting the economic and social development of the wider regions within which such sites are located in an integrated and sustainable way. The development of an appropriate accessibility framework for key cultural and natural sites through hybrid digital and physical means will be instrumental for improving the development prospects of the relevant regions, paving the way for economic recovery and development, particularly in the post-COVID19 period, thus providing an impetus to the both the local and the national economy.

Develop tourism and diversify the touristic product: Investments 11 and 12 support thematic tourism through the mountain tourism, health and wellness tourism and diving & underwater tourism and it focus on the upgrade in the traditional tourist product, which can shape a higher-value proposition in regions with less developed touristic industry, stimulating investment inflows and ameliorating employment perspectives in the areas where the pandemic consequences were widely felt. Given the need to connect people to nature this component includes proposals around mountain, culture and silver tourism as an emerging and highly attractive market, in line with 2019/Recital 21 as well as with 'Ellada Mprosta' programme which includes the need for Institutional reforms for special forms of tourism. Furthermore, investment 11 promotes integration of agricultural products and gastronomy in tourism in order to register local suppliers products and services and develop a personalised authentic tourist experience using an Interconnection System (AGTIS) in line with the general objective of supporting the digital transition. Moreover, through this component, accessible tourism is promoted, aiming at the reinforcement of tourism for visitors with special needs, through the improvement of the accessibility of the country's beaches in line with the National Confederation of Persons with Disabilities as well as with the National Action Plan on the Rights of Persons with Disabilities. Also the investment aims to upgrade the Maritime infrastructures in tourist ports. The related reform and the investments are perfectly aligned with both the 10-year National Strategic Plan for Tourism Development as well as the Sectoral

Development Program for Tourism within the National Development Program 2021-2025 (“EPA 2021-2025”). Additionally the upskilling and reskilling program will serve as a “horizontal accelerator” for the effective implementation of reforms and investments that will allow to transform tourism’s growth model, while contributing to strengthening labour market participation, reducing skills shortages and mismatches and improving innovation, competitiveness and growth potential among the employees in the industry. Moreover, investments 29 aim to increase connectivity of Greek population depends heavily on sea transportation, as it sustains inhabitability of islands by transporting passengers and goods on an uninterrupted basis throughout the year. Moreover, developing islands’ ports infrastructures contribute to the added value of touristic products and the development of the society with more jobs and increase in population, as their economic development markedly relies on tourism. Investment 28 will develop a master plan of the existing greek fleet under which it will underline the requirement changes for growth.

Transform the agricultural and aquaculture sector: Given the size of the sector, investments into more efficient production methods, promotion of producer organisations and cooperatives, and re-orientation to products with higher added value could turn the sector into a significant driver of growth and exports going ahead. In that context the need to promote policies that aim to the improvement and restructure of the agricultural and food sector is emerging. A key strategic objective for the agro-food sector that is implemented through investment 9 which is to focus on gradually shifting the production model towards quality products and products with an identity, whose prices are higher and where Greek products can compete favourably. Investments 10 and 11 aim towards the rural development and restructuring of the primary sector by the development and promotion of rural products. Also in line with the EU Strategic plan concerning agricultural development in Greece, which highlights the need to continue to offer a wide range of tools beneficial for the environment and climate, these investments include actions for supporting ambitious farming methods and practices beneficial for the environment and climate, providing environmental public goods in the fields of climate change mitigation and adaptation. Investment 12, in line with ‘Ellada Mprosta’ programme promotes the aquaculture sector strengthening the competitiveness of the industry and introducing innovative processes for the management of the natural environment and the well-being of fish populations.

Smooth transition to the Industry 4.0 phase to create a competitive and resilient industry: Greek manufacturing enterprises, especially SMEs and mid-caps, should be placed in the center of Industry 4.0 strategy’s effort to contribute to the utmost degree for the Greek economy since they constitute the majority of companies within the Industrial sector. SMEs and Mid-caps through Investment 16 is aimed to be supported for their growth and smooth transition to Industry 4.0. In recent years considerable efforts have been rolled out by the Greek government (with the utilisation of state or European funds) in order to support these enterprises. However, the pace and level of financial support have to be stepped up in order to assist SMEs and Mid-Caps in making their digital leap with regard to all aspects of their business operations and products or services produced. Investment 16 will act as a “financial umbrella” aiming at building a solid and sustainable industrial ecosystem of SME and Mid-Cap enterprises, providing for their investment needs and allowing for value-adding synergies and diffusion of best practices among them. This initiative will provide financing for any direct investment needs the above enterprises may pose that will aim to support them make their digital leap and enable green growth of the economy. Moreover, the Greek government will support the industrial ecosystem and specifically the industrial parks with the investment 17. The main goal of the investment for the following years should be the systematic increase of productivity and extroversion (ie the relative participation of internationally traded goods and services in the national product), as well as the closer connection of production with technology and innovation. The shift of the economy in this direction, in a way compatible with the social and environmental goals of the country, can be achieved gradually in the coming years with combined actions of the overall economic policy. The new industrial parks can create jobs and improve the added value of the economy based on

tackling climate change and focus on the environmental upgrade of ecosystems which also is a central EU component of the COVID-19 crisis exit plan

Improve transportation infrastructure: Greece can significantly strengthen its position in the international flows of trade and human capital, taking full advantage of its geographical position, located at a crossroads between three continents. To this end and in line with 2020/ Recital 24, the modernisation of the infrastructure in the country's airports, railway and road network, is of strategic importance. In addition to making the country a major gateway for trade flows to and from Europe, in line with the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides, the strengthening of transport infrastructure creates the conditions for a more dynamic participation of the domestic production structure in global value chains, with positive prospects for extroversion and innovation. In its wider geographical area, Greece has to show comparative advantages from a strong institutional framework that depends on its long-term participation within the European and monetary Union. In addition to making the country a major gateway for trade flows to and from Europe, the strengthening of transport infrastructure creates the conditions for a more dynamic participation of the domestic production structure in global value chains, with positive prospects for extroversion and innovation. This component includes investments in key parts of the road infrastructure, including motorways, national roads and urban nodes and ring roads as well as expansion and improvements of airports infrastructures of high importance. The proposed road axes under this component are of great importance for the transport, tourism and the economy of the wider area. Moreover, the national and urban railway network have a major role in the RRF since the projects will increase the core activities mainly due to the development of more supply chain units and increase in service activities of the local population (mainly services of both the public and especially the private sector, which are currently underdeveloped). Moreover, there will be a restructure on the administrative model of the rail companies in order to modernise their practises and their tools to increase customer responsiveness and satisfaction. In addition, investments enable the enhancement and development of key trade relationships within the country and internationally, promoting the development of the primary production sector and boosting the exports of the country. Furthermore, in this component, investments in port facilities will provide the possibility of expanding the available areas for logistics and upgrading the required digital infrastructure in line with recommendation 3:2020. The objectives of this component are also fully in line with the high-level objectives of the National Transport Plan for Greece. Digital enhancements will focus to improve the flow in the highway plazas and thus reduce CO2 emissions, travel time, fuel consumption, and road / toll accidents. Finally, through an investment will be developed an internal mechanism to monitor through live data the safety of specific bridges. Also, through a reform, the Ministry of Infrastructure and Transport will set a Portfolio Management Information System that will provide the tools to the Ministry of Infrastructure and Transportation to monitor, manage and administer its portfolio of all technical works and assets. The system will provide accurate information in real time regarding deliverables, cost and schedule throughout all the stages and life cycle of the performed works.

Support of export activity: Significant reforms are included that aim at streamlining and simplifying administrative procedures that weigh heavily on export activity, including customs and pre-customs procedures. In addition to supporting economic recovery, such reforms are also expected to strengthen the export orientation of the economy by removing obstacles to international trade activity by Greek companies. In this respect, they are expected to underpin efforts to address the external sector imbalances of the economy and to complement other actions that aim at strengthening Greek companies' competitiveness and their capacity to compete at an international level. At the same time, reforms under this component also aim at promoting export activity through the design and adoption of more comprehensive and consistent promotion strategies.

Removal of obstacles to foreign investment: Given the importance of private investment in fostering the recovery, it is crucial that obstacles to the attraction of foreign investment are removed. The component's reforms aim at achieving this objective through major simplifications in the business environment, through streamlining administrative processes related to export and import activity, as well as through introducing amendments to the tax legislation that will bring Greece in line with the majority of EU Member States and remove complications that carry a significant administrative cost both for enterprises and for the public administration. The removal of obstacles and the incentivisation of foreign investment flows is expected to complement all actions included in the component that aim at strengthening domestic private investment and supporting an increased openness of the Greek economy.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

Reforms

Reform 1. Labour Reform in the Cultural Sector (ID: 16715)

Reform 2. Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport (ID: 16937)

Reform 3. Simplification of the Procedures of the Ministry of Infrastructure & Transport (ID: 16786)

Reform 4: Trade facilitation (ID: 16592)

Reform 5: Amendment of the legal framework for the attraction of strategic investments (ID: 16593)

Reform 6: Digitalisation of Economic Diplomacy Network - "Digital Economic Diplomacy Network" (ID: 16599)

Reform 7: Organisational reform in the railways sector (ID: 16982)

Investments

Investments

Investment 1. Skill building for creative and cultural professionals (ID: 16723)

Investment 2. Culture as a driver of growth (ID: 16293)

Investment 3. Utilising "arts on prescription", promoting social cohesion, and tapping on the silver economy (ID: 16735)

Investment 4. Upgrading higher arts education

Investment 5. Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by the HOCRED Stores - former ARF Stores (On-spot and electronic) (ID: 16536)

Investment 6. Museum of Underwater Antiquities (ID: 16486)

Investment 7. Protection of cultural monuments and archeological sites from climate change (ID: 16433)

Investment 8. Highways for Nature and Climate (ID: 16970)

Investment 9. Cultural Routes at emblematic archeological sites and monuments (ID: 16485)

Investment 10. Restoration - Conservation - Enhancement of the Acropolis Monuments (ID: 16435)

- Investment 11. Tourism Development (ID: 16931)
- Investment 12. Reskilling and Upskilling in Tourism (ID: 16921)
- Investment 13. Digitalisation of the Agri-food sector (ID: 16653)
- Investment 14. Economic transformation of the agricultural sector (ID: 16626)
- Investment 15. Proposals for actions in the aquaculture sector (ID: 16584)
- Investment 16. Accelerating of smart manufacturing (ID: 16721)
- Investment 17. New Industrial Parks (ID: 16634)
- Investment 18. Smart infrastructure with environmental and cultural focus (ID: 16960)
- Investment 19. Road Safety Upgrade (ID: 16631)
- Investment 20. Cretan Northern Highway (B.O.A.K.) (ID: 16630)
- Investment 21. Intervention for the upgrade and redeployment of the Greek railway network system and infrastructure
- Investment 22. EASA compliance Program (ID: 16833)
- Investment 23. Smart Bridges (ID: 16949)
- Investment 24. Upgrading suburban railway of West Attica (ID: 16892)
- Investment 25. Electronic Tolls (ID: 16950)
- Investment 26. Digital Transformation of the Hellenic Railways Organisations (ID: 16959)
- Investment 27. Central Greece Highway E-65: Trikala - Egnatia Section (ID: 16628)
- Investment 28. Master plan for the renewal of the Greek passenger shipping fleet (ID: 16944)
- Investment 29. Upgrade Interventions for Regional Ports (ID: 16975)

4. Open strategic autonomy and security issues

Not applicable

5. Cross border and multi country projects

Not applicable

6. Green dimensions of the component

Buildings are responsible for approximately 40% of EU energy consumption and 36% of the greenhouse gas emissions and are therefore the single largest energy consumer in Europe. Specifically, the following investments will include infrastructure and equipment renovations, a) Acceleration of smart manufacturing, b) New industrial parks, c) museum of underwater antiquities, d) Interventions for the upgrade and redeployment of the Greek rail network system and infrastructure, e) Upgrading suburban railway of West Attica, f) Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by HOCRED Stores – former ARF Stores (On-spot and electronic) and g) Tourism Development, h) culture as a driver for growth (subproject 1). Aligned with the EU climate change ambition for climate neutrality by 2050, Greece has set an ambitious target, described in the National

Energy and Climate Plan (NECP) to decrease greenhouse gas emissions by 56% in 2030 below 2005 national data.

There are also investments in this component that target the establishment of spatial and urban planning and the creation of a greener built environment. These are a) Upgrade Interventions for Regional Ports b) Highways for Nature and Culture, c) Protection of cultural monuments and archaeological sites from climate change and d) Economic transformation on the Agricultural Sector. These measures aim at adapting urban environments to climate change and upgrading existing premises using environmental materials that promote circularity as described in the Green Deal Action Plan for circular economy and provide open areas to the public improving access to nature within the built environment and consequently improving their wellbeing.

In addition, the component's proposed measures contribute to the green transition, taking into account climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reform and investments will contribute to:

- Climate change mitigation by promoting energy transition and capital flows towards infrastructure with decreased energy requirements and improved carbon footprint.
- Climate change adaptation as the deep renovation of housing and the non-residential stock with a long-term perspective, takes disaster risks and changing climatic conditions into consideration (e.g., increasing likelihood of more frequent and more severe extreme weather events) and their overall resilience.
- Pollution prevention and control linked to the energy consumption of the building stock. Substituting fossil fuel-based heating installations that contribute to excessive ambient air pollution by cleaner alternatives fueled with renewable energy and phasing out fossil fuels in buildings altogether is also part of this component.
- Sustainable use and protection for water and marine resources, as all the actions will be implemented by respecting resources and improving the sustainability of all operations in the built environment, including renovations.
- Circular economy, including waste prevention and recycling; since more construction materials will be needed to implement this component, circularity principles are incorporated in the design phases of renovation and construction, and reuse as well as recycling platforms for construction materials and demolition waste are foreseen. Prevention of construction waste is supported and given priority, as indicated by the waste hierarchy.
- Protection and restoration of biodiversity and ecosystems as the development of green spaces and the improvement of already existing ones will create new habitats within the urban areas that will attract biodiversity.

7. Digital dimensions of the component

The Regulation COM (2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 20% of the plan's total allocation to contribute to the digital transition or to the challenges resulting from it.

The use of digital solutions tailored to key economic sectors, namely tourism, culture, agriculture, manufacturing and aquaculture as well as national transportation and logistics infrastructure, is considered both a prerequisite and an enabling factor to improve the competitiveness, increase productivity, as well as achieve the resilience and sustainable growth of the national economy.

In this regard, targeted interventions and investments with significant digital footprint entailed under the present component will contribute towards (a) the modernization and digital transformation of the agricultural sector, (b) the implementation of smart infrastructure within the cultural and environmental sector of the country through the digitalization of the relevant procedures, (c) the reform for the redesign and simplification of procedures the Ministry of Infrastructure and Transport aiming to the provision of enhanced, qualitative services to citizens, and (d) the digitalization of rail transport through the modernization and upgrade of the Hellenic Railways Organisation's (OSE) telecommunication infrastructure.

The proposed interventions are instrumental to the transformation of Greece into a digitized economy, generating important spillover effects including (i) the strengthening of the agri-food sector's growth potential, by increasing the recognizability of products that bear the Greek trademark through the implementation of a large-scale digital agricultural infrastructure, (ii) the attraction of foreign investments and simplification of privatization procedures through smart infrastructure technologies implementation in the environmental and cultural sectors, (iii) the provision of enhanced, efficient and qualitative digital services to citizens and businesses through the simplification of procedures and the improvement of public administration's operational model and (iv) improved capacity, traffic management, reliability, energy efficiency, lower operating costs and enhanced transportation services through the implementation of modern digital technologies in the rail sector.

Reform 6 can be characterised as the most "digital-heavy" project of the component, since it involves: (a) the "Single Window" exports Gate, which gathers, processes, and distributes all exports-related Intelligence (b) the acquisition processing and exploitation of databases on international market and on exports procedures, (c) the full Digitization of Enterprise Greece's internal processes, (d) the establishment and utilisation of digital channels of communication with both exporters and potential investors, (e) the creation of a digital vaults for strategic investors and for EG's investment portfolio as well as (f) the digitization of all paper files and inclusion in the new digital environment.

Such initiatives are expected to transform the Greek growth model by providing a "digital reboot" and significantly boost annual GDP growth during a course of 5-10 years.

By comprising 25% of digital expenditures (see Table - 1), this component contributes to the abovementioned digital target of 20%.

8. Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate in order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU.

The tagging has been performed on a subproject level for a number of investments as indicated in the table below.

Title of reform or investment	Climate (%)	Digital(%)
Labour Reform in the Cultural Sector (ID: 16715)	0%	0%
Digital Integrated Program Management System for the Administration of the	0%	100%

Part 2: Description of reforms and investments

Title of reform or investment	Climate (%)	Digital(%)
Technical Works and Structural Assets of the Ministry of Infrastructure and Transport (ID: 16937)		
Simplification of the Procedures of the Ministry of Infrastructure & Transport (ID: 16786)	0%	100%
Trade facilitation (ID: 16592)	0%	0%
Amendment of the legal framework for the attraction of strategic investments- (ID: 16593)	0%	0%
Amendment of the legal framework for the attraction of strategic investments-Support to enterprises that provide services contributing to the low carbon economy and to resilience to climate change including awareness-raising measures (ID: 16593)	100%	0%
Amendment of the legal framework for the attraction of strategic investments-Construction of new energy efficient buildings (ID: 16593)	40%	0%
Digitalisation of Economic Diplomacy Network - "Digital Economic Diplomacy Network"(ID: 16599)	0%	100%
Organisational reform in the railways sector (ID: 16982)	0%	0%
Skill building for creative and cultural professionals (ID: 16723)	0%	0%
Culture as a driver of growth- Preparation, implementation, monitoring and control (ID: 16293)	0%	0%
Culture as a driver of growth- Energy efficiency renovation or energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures (ID: 16293)	40%	0%
Utilising "arts on prescription", promoting social cohesion, and tapping on the silver economy (ID: 16735)	0%	0%
Upgrading higher arts education (ID: 16725)	0%	0%
Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by the HOCRED Stores - former ARF Stores (On-spot and electronic) - Energy efficiency and demonstration projects in large enterprises and supporting measures (ID: 16536)	40%	0%
Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by the HOCRED Stores - former ARF Stores (On-spot and electronic) Preparation, implementation, monitoring and control(ID: 16536)	0%	0%
Museum of Underwater Antiquities (ID: 16486)	40%	0%
Protection of cultural monuments and archeological sites from climate change (ID: 16433)	100%	0%
Highways for Nature and Climate (ID: 16970)	0%	0%
Cultural Routes at emblematic archeological sites and monuments (ID: 16485)	0%	0%
Restoration - Conservation - Enhancement of the Acropolis Monuments (ID: 16435)	0%	0%
Tourism Development -Preparation, implementation, monitoring and control (ID: 16931)	0%	0%
Tourism Development -Energy efficiency and demonstration projects in SMEs and supporting measures (ID: 16931)	40%	0%
Tourism Development- Energy efficiency renovation or energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures (ID: 16931)	40%	0%
Tourism Development -Renewable energy: wind(ID: 16931)	100%	0%
Tourism Developmen- Energy efficiency renovation or energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures t (ID: 16931)	40%	0%

Part 2: Description of reforms and investments

Title of reform or investment	Climate (%)	Digital(%)
Reskilling and Upskilling in Tourism (ID: 16921)	0%	0%
Digitalisation of the Agri-food sector (ID: 16653)	0%	100%
Economic transformation of the agricultural sector- reparation, implementation, monitoring and control (ID: 16626)	0%	0%
Economic transformation of the agricultural sector- Energy efficiency and demonstration projects in SMEs and supporting measures (ID: 16626)	40%	0%
Economic transformation of the agricultural sector- Renewable energy: solar (ID: 16626)	100%	0%
Economic transformation of the agricultural sector-Alternative fuels infrastructure (ID: 16626)	100%	0%
Economic transformation of the agricultural sector- Support to environmentally-friendly production processes and resource efficiency in SMEs (ID: 16626)	40%	0%
Proposals for actions in the aquaculture sector (ID: 16584)	40%	0%
Accelerating of smart manufacturing (ID: 16721)	0%	100%
New Industrial Parks- Construction of new energy efficient buildings (ID: 16634)	40%	0%
New Industrial Parks- Rehabilitation of industrial sites and contaminated land (ID: 16634)	0%	0%
New Industrial Parks- Water management and water resource conservation (including river basin management, specific climate change adaptation measures, reuse, leakage reduction) (ID: 16634)	40%	0%
New Industrial Parks- Waste water collection and treatment compliant with energy efficiency criteria (ID: 16634)	40%	0%
New Industrial Parks- Renewable energy: solar (ID: 16634)	100%	0%
New Industrial Parks- Alternative fuels infrastructure- Water management and water resource conservation (ID: 16634)	100%	0%
New Industrial Parks (ID: 16634)	40%	0%
Smart infrastructure with environmental and cultural focus (ID: 16960)	0%	100%
Smart infrastructure with environmental and cultural focus- Nature and biodiversity protection, natural heritage and resources, green and blue infrastructure (ID: 16960)	40%	0%
Smart infrastructure with environmental and cultural focus- Digitalisation of transport: rail (ID: 16960)	40%	0%
Road Safety Upgrade (ID: 16631)	0%	0%
Cretan Northern Highway (B.O.A.K.) (ID: 16630)	0%	0%
Intervention for the upgrade and redeployment of the Greek railway network system and infrastructure (ID:16954)	100%	0%
EASA compliance Program (ID: 16833)	0%	0%
Smart Bridges (ID: 16949)	0%	100%
Upgrading suburban railway of West Attica (ID: 16892)	100%	0%
Electronic Tolls (ID: 16950)	40%	100%
Digital Transformation of the Hellenic Railways Organisations (ID: 16959)	40%	100%
Central Greece Highway E-65: Trikala - Egnatia Section (ID: 16628)	0%	0%
Master plan for the renewal of the Greek passenger shipping fleet (ID: 16944)	0%	0%
Upgrade Interventions for Regional Ports (ID: 16975)	40%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation.

Each one of the investments and reforms of the Renovation component were assessed on the checklist to identify if and which of the six environmental objectives required a substantive DNSH assessment. The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs (The justification and any data or evidence used should be annexed to the recovery and resilience plan)

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
 - **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the sixth component (“Modernize and improve resilience of key economic sectors”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Implementation of infrastructure projects and construction of new building or renovation of existing buildings
- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs
- Organization of publicity and awareness actions

1st element: Infrastructure projects and building construction

The relative costing of the investments as regards the first element derives from:

- The implementation of infrastructure projects concerning the construction or the extension of the road and railway network, the construction or upgrade of airport and port infrastructure (e.g. marines, port shelters)
- The construction of new building or the renovation of existing buildings
- The installation of renewable energy and waste management systems as well as new generation network systems (5G)

The cost parameters of these investments mainly include the fees charged for the construction works (e.g. land, pavement construction works etc.) and the cost for the purchase of the required construction material (e.g. cement etc.). The costs estimates are based on the following parameters:

- Specification of the surface of the infrastructure or building area in each project (measured either in square meters or in cubic meters)
- Determination of the required construction materials (e.g. cement in tones), in cases when the relative costs are calculated separately from the costs of work
- Estimation of the unit costs related to the construction works (unit costs per square meter or cubic meter) and the procurement of the required materials (unit costs per ton or unit) based on the relevant market rates
- Calculation of the overall costs required per infrastructure project, derived from the estimated costs of the overall construction works (including also the cost for all the required electrical and mechanical installations) as well as the material procurement costs

2nd element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment, software licenses, machinery, furniture and vehicles. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment and licenses needed to be purchased in each investment and determination of the relative amount required
- Estimation of the relative unit costs in items for equipment or in years for the licenses based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software licenses

3rd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment and customization of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

4th element: Project management, consultation and technical assistance

The cost as regards the fourth element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the

implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

5th element: Training and professional certification programs

The cost as regards the fifth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. as well as the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

6th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one (e.g. working hours, months or years)
- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per working hour/month/year corresponding to each awareness action)

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request

Non applicable.

COMPONENT 4.7: Improve competitiveness and promote private investment and exports

1. Description of the component

Policy areas/domain: Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness and a well-functioning internal market with strong SMEs should aim to enhance the growth potential and enable a sustainable recovery of the Union's economy.

Executive Summary:

The components' main aspect is to provide financial incentives for private investment. Through these policies, the loans from the RRF will be used in order to promote investment with eligibility firmly grounded on economic foundations, including the green and digital transition. The planning of the relevant policies will be such as to mobilise significant private resources, in order to reduce the large investment gap of the Greek economy and to accelerate and enhance the recovery from the crisis. The RRF loans will be used in ways that are compatible with fiscal sustainability and limit exposure to taxpayers.

Providing financial incentives for private investment is complemented by a series of reforms aimed at improving the business environment, reducing bureaucracy and administrative costs, increasing the size of Greek companies, and strengthening the export and productive orientation of the economy. At the same time, the component is expected to carry out particularly important reforms which will focus on the simplification of the institutional framework and the business environment in general, through appropriate regulatory and legislative interventions and actions of digital transformation of structures and tools of public administration.

In this way, significant obstacles, which currently act as a deterrent to the development of Greek entrepreneurship, are expected to be removed, same as for imbalances observed between different companies and sectors, thus creating an equal and investment-friendly business environment.

Objective: The component aims at promoting private investment that is crucial for the recovery of the Greek economy and for the closing of its sizable investment gap, as well as for its competitiveness, as this has emerged as a particularly important priority both from the European Commission recommendations for the country for the years 2019-2020, as well as from the report of the Pissarides Committee. The targeted interventions of the component aim to reduce the sizable investment gap of the country, thus seeking to have a positive impact on both reducing unemployment and low productivity, two significant inhibitors of growth for the Greek economy in recent years.

Actions to promote private investment include both structural reforms that are mainly targeted towards the improvement of the business environment and the simplification of the regulatory framework, and the provision of financial incentives to the private economy, with an emphasis on eligibility guided by economic principles.

All of the above holistically complement the other components of the plan and are expected to be accelerators for the emergence of the Greek economy and its support for overcoming the current crisis of the pandemic.

Reforms

- **Reform 1:** Actions for the simplification of the business environment and its upgrading in quality and safety (ID: 16543) [COFOG: 04.9]
- **Reform 2:** Incentivisation regime for productivity and extroversion of enterprises (increasing the size of enterprises) (ID: 16598) [COFOG: 01.1]
- **Reform 3:** Ease of doing business (ID: 16591) [COFOG: 04.9]

Investments

- **Investment 1:** RRP Loan Facility (ID: 16980)

Estimated cost: EUR 5 million, of which EUR 5 million (100%) are covered by RRF

2. Main challenges and objectives

a. Main challenges

One of the most important challenges that have been identified in the context of the European Semester refers to the legacy stock imbalances of the Greek economy in relation to the external sector. Despite the fact that the flow imbalances with respect to the current account have been largely corrected, Greece's net international investment position was lower than -150% of GDP in 2019. Although this effect is to a great extent due to high public debt held in concessional terms, the gradual correction of the imbalance requires further improvements in the current account. Tackling excessive macroeconomic imbalances corresponds also to a recommendation addressed to Greece by the Council in 2019, and would require a **reorientation of the economy towards the tradable sector** and an increase in the productivity, competitiveness and extroversion of Greek firms.

At the same time, Greece exhibits an **extremely high investment gap**, when measured either against the Union's average or against the pre-2010 levels of investment to GDP ratio that prevailed in the Greek economy. This gap constitutes one of the main reasons explaining low productivity growth and the high unemployment ratio, the latter also constituting one of the Greek economy's excessive imbalances identified in the context of the Semester. It also constitutes a significant obstacle to the swift recovery from the current crisis. In this respect, the Council's recommendations to Greece in 2020 included a call to promote private investment in order to foster the recovery, as well as a call to promote the digital transformation of businesses, which is also critical in terms of productivity increases.

Recommendations have also been addressed to Greece – both in 2019 and in 2020 – concerning the completion of post-programme commitments. These commitments cover areas that are closely linked with the aforementioned challenges, namely those related to product markets and especially to the improvement of the business environment and the reduction of regulatory burden.

Specific challenges in this respect include the following:

Weak private investment contributing to the large investment gap. Very high negative output gap that is expected to rise from 4.4% of GDP in 2019 to 12.3% in 2020 according to the Commission's autumn forecasts. Exceptional investment gap, both in terms of Greek historic standards, as well as in terms of the present EU average. In 2019 investment spending in Greece was equal to 10.1% of GDP, as opposed to 22.2% in the euro area, while analysis of disaggregated investment spending reveals that almost two thirds of the investment gap is due to private business investment. Greece had always presented a gap in this sector, but this widened further during the past decade. Furthermore, the business investment gap maintains its ascending trend, since business investment has picked-up in the euro area in recent years but stagnated in Greece. Large interest rate differential for Greek firms compared to euro area average, which increases the cost of capital for Greek firms, thereby restricting significantly business lending and, among other negative effects, delaying the green and digital transition of the Greek private sector. In addition, Greece faces a legacy of exceptionally high debt to GDP ratio, implying that the margin available for further increase in Greek public debt is limited. Possible difficulties in financing profitable business investment through the Greek banking sector, due to market failure in the market for investment loans as a result of: limited own-capital of Greek banks in the aftermath of Greek economic crisis, restricting their ability to provide loans; risk aversion on behalf of banks preventing them from fulfilling their role as risk-neutral risk poolers.

Small average size of Greek companies. As highlighted also by the Pissarides' Committee report, compared to other member states, in 2017, 48.5% of the employed people in the business sector in Greece were working in enterprises with fewer than 9 persons employed, while 28.7% people in employment were

self-employed, which is the highest percentage among all member states with available data. Given the positive correlation between productivity and business size, the high stake of employment in micro enterprises and sole proprietorships, rather than small and medium companies, implies low labour productivity. Given their small size, Greek enterprises are not in a position to take advantage of economies of scale and cutting edge technology. This leads them mostly to the services sector and focusing on domestic consumption, thus creating a business model characterised by very limited access to financing and by high vulnerability to any systemic crises. The problem is exacerbated due to the low productivity of the micro enterprises. While gross value added per employee in the entire business sector stands at EUR 21,100 the respective figure for micro enterprises is merely EUR 7,900. As a result, concerning labour productivity, Greece is ranked in the fifth lowest position in terms of labour productivity among Member States for which data are available.

High regulatory burden. Over the past years, Greece has invested many resources in an important and challenging reform project regarding the simplification of the business environment. The proposed reform covers a broad range of economic activities with regard to licensing and new inspection practices, ultimately linking both to the digitalisation of processes. The reform has started to take shape but many challenges are still present with respect to addressing all post-programme commitments and to tackling the persistent structural problems of the administration and businesses that are still acting as barriers to entrepreneurship and investments. The structural problems of the public administration are reflected in the regulatory delivery, both operational and legislative, causing various impediments to the function of the state towards entrepreneurship and consequently investments and job creation. Past experience has shown that engaging and inculcating ownership of the reform agenda to relevant actors across the public administration has proven a difficult task.

Current account imbalances. The Greek economy had traditionally recorded significant deficits in the current account, as a result of poor export performance in the goods sector. The current account deficit had widened considerably prior to the 2008-2009 financial crisis and constituted one of the main imbalances that explain the high vulnerability of the Greek economy once that crisis erupted. Although in recent years the current account deficit has significantly narrowed and the previous imbalances have been largely corrected, this has been achieved to some extent through the reduction in imports as a result of the decline in economic activity. Exports also rose considerably over the past decade, but the degree of openness of the Greek economy remains small by European standards, largely due to weak investment and the structure of the Greek economy that is characterised by the prevalence of companies of a small average size. The Covid-19 pandemic has exacerbated this problem as it has led to a new widening of the current account deficit.

Low levels of investment in R&D. Greece lags behind the EU average in investment in R&D. Difficulties faced by new companies to raise funds limit new investment in related areas, while the small degree of openness of the economy, the stronger relative importance of the non-tradable sector and the strong of the majority of companies on the domestic market do not provide sufficient incentives for high levels of investment in R&D. Low private investment in R&D aggravates the effects of the large investment gap, leading to stagnating productivity growth and preventing increases in the economy's growth potential.

Impact of regulatory framework on business environment. Greece faces challenges on the regulatory framework for the business environment. Regulations are usually heavy, with a high number of procedures which results in additional time and cost for businesses. In addition, the regulatory framework lacks predictability, creating legal uncertainty for investors. This is also reflected in the Doing Business ranking of the World Bank, where Greece ranks 79th out of 190 economies. According to the Commission's analysis in the context of the European Semester, the most problematic areas include registering property, enforcing contracts and accessing credit, while public administration inefficiencies, including a

very limited provision of digital public services and red tape, continue to constitute obstacles for firms. Moreover, excessively low tenders in public procurement procedures limit efficiency in public spending, while inefficiencies in the justice system negatively affect the investment climate and limit the provision of credit to the real economy. The need to improve the business environment is also highlighted in the Commission's analysis, also in relation to its potential effects on productivity, as well as on the external position.

b. Objectives

The overall objective of the component is to support the growth of private investment with a view to closing the sizable investment gap in the Greek economy and fostering the recovery, through the use of RRF loans to provide financial incentives for private investment. Moreover, the component aims at increasing the relative weight of tradable sectors in the domestic economy and strengthening the export orientation of Greek companies. These objectives are going to be attained through a series of structural reforms focusing heavily on the improvement of the business environment and supporting potential growth and the resilience of the economy. In addition, the component will also include strong financial incentives for private investment that are fully in line with the Union priorities on the green and the digital transition, as well as with the recommendations addressed to Greece by the Council in 2019 and 2020. Also the Council Recommendation on the 2020 National Reform Programme of Greece, delivering a Council opinion on the 2020 Stability Programme of Greece¹⁰⁵ recommends that Greece take action in 2020 and 2021 to swiftly deploy measures to provide liquidity and continued flow of credit and other financing to the economy.

Specifically:

(i) Reform 1. Actions for the simplification of the business environment 16543 aims at addressing recommendations 3:2020 through promoting private investment and 4:2020 through continuing and completing reforms related to post-programme commitments in relation to product markets and the business environment.

(ii) Reform 2. Incentivisation regime for productivity and extroversion of enterprises 16598 aims at addressing recommendations 1:2019 through tackling excessive macroeconomic imbalances and 3:2020 through promoting private investment.

(iii) Reform 3. Ease of doing business 16591 aims at addressing recommendations 1:2019 and 4:2020 through the continuation and completion of reforms included in the post-programme commitments, as well as recommendation 3:2020 through promoting private investment.

(vii) Investment 1. RRP Loan Facility (ID: 16980) Aims at addressing recommendation 3:2020 through promoting private investment, as well as recommendations 2:2019 and 3:2020 through focusing investment on areas including the green transition, the digital transformation, and R&D.

Specific objectives of this component include the following:

1. Provision of financial incentives to private investment: The objective entails the use of the maximum allowed RRF loans in order to provide financial incentives to private investment, close the large investment gap and foster economic recovery. For Greece, this maximum stands at approximately 13 billion euros in 2018 values, i.e. approximately 8% of projected GDP for 2020. Given the very limited fiscal

¹⁰⁵ COM (2020) 508 final 20.5.2020

space, the deployment of RRF loans is an indispensable prerequisite for increasing aggregate demand. The pre-existing large private investment gap implies that there is a significant pool of mature private investments which, if financed through the RRF, can make a significant contribution towards accelerating economic recovery. The existing large business investment gap implies that the marginal product of capital (i.e. profitability of new investment) is high. This indicates that financing private investment through RRF loans involves significant positive long-term multiplier effects, increasing long-term output, employment, and economic and social resilience.

To that effect, the use of RRF loans should respect some guiding principles, most importantly that they will be directed to long-term investments by the private sector rather than to short-term financing of working capital. Moreover, the objective should be to increase the level of financing business investment without channelling RRF loans to loss-making projects, which would result in medium-run sunk costs at the expense of the taxpayer, i.e. higher public debt, impact on deficit. Decisions must be taken using exclusively economic criteria, meaning that only projects with positive expected rate of return (positive net present value) should be financed. The RRF loans should be used in a targeted manner aiming to rebalance the economy towards the traded sector, and increase productivity and non-price competitiveness. To that end, investment should focus on projects promoting the green transition, digitalisation, innovation (R&D), economies of scale and higher exports.

2. Increase productivity of Greek companies: Low productivity of Greek companies constitutes a major obstacle to both short-term recovery and long-term resilience, and contributes strongly to low competitiveness of the economy. Increasing productivity is one of the central objectives of this component, and actions to that effect focus on the small average size of all categories of Greek companies (micro, small & medium and large), that prevents them from reaping the benefits of economies of scale, drives them towards an exclusive reliance on the domestic market, and fuels informal economic activity. The component's reforms include incentives of various types that will lead to an increase in the average size of companies, allowing them to achieve significant productivity gains and improve their competitiveness, both at the national and international landscape.

3. Simplification of the business environment: Actions included in the component place a strong emphasis on the further simplification and improvement of critical aspects of the business environment that adversely affect private investment. The component includes a broad array of such actions in areas that include, inter alia, investment licensing and inspections, contract enforcement, and targeted reforms aiming at the modernisation and the increased efficiency of the justice system. The implementation of the proposed actions is expected to significantly strengthen incentives for private investment, including foreign investment flows, by reducing the administrative burden that companies face, providing a stable and predictable environment and considerably shortening the time required for the completion of relevant procedural steps. This is expected to provide a strong impetus for recovery, but also to lead to a more resilient economic structure and to higher potential growth.

c. National strategic context

The reforms and investments included in the component are in line with the national strategic context, which consists in the Growth Strategy produced by the experts' committee presided by Professor Christopher Pissarides. The Pissarides' Committee report places particular emphasis on the need to increase the export orientation of the Greek economy, including through an increase in the average size of Greek companies, while it suggests specific sectoral priorities where both reform and investment efforts should be targeted.

Specifically, one of the major proposals put forward in the Pissarides' Committee report refers to the gradual increase in the number of medium and large enterprises, which is seen as a precondition for increasing productivity in important sectors of the economy, as well as for boosting exports. At the same time, the Growth Strategy suggests the importance of better interconnection of small and medium-sized enterprises with the larger ones, in order to indirectly and further strengthen the extroversion of the economy.

With respect to the green transition, the Pissarides' Committee report proposes the use of both public investment and incentives for private spending, with emphasis on the shift to renewable energy sources, the mitigation of transition costs during the de-ligation process and the development of circular economy systems. At the same time, the Growth Strategy prioritises the development of infrastructure through both public investment and the mobilisation of private investment in areas including digital technologies and systems, green development and environmental upgrading, waste management, transport to strengthen Greek ports as a source of freight in Europe and to facilitate the export of goods from the country, as well as with respect to infrastructure upgrades for inbound tourism.

The Pissarides' Committee report also considers R&D as crucial to the growth potential of the Greek economy, suggesting that innovation should be enhanced through the use of incentives for business research in areas including manufacturing and the agri-food sector, as well as through smart specialisation.

3. Reforms and Investments

The detailed description of the reforms and investments can be found in the Appendices.

a. Key Reforms

Reforms

Reform 1: Actions for the simplification of the business environment and its upgrading in quality and safety (ID: 16543)

Reform 2: Incentivisation regime for productivity and extroversion of enterprises (increasing the size of enterprises) (ID: 16598)

Reform 3: Ease of doing business (ID: 16591)

b. Investments

Investment 1. RRP Loan Facility (ID: 16980)

4. Open strategic autonomy and security issues

Non applicable.

5. Cross border and multi country projects

Non applicable.

6. Green dimensions of the component

By design, LF will allocate at least 37% of the value of the LF Loans portfolio towards the green transition, including biodiversity. In that respect, the FIs will maintain a record of the green expenditure within the LF portfolio and assure that the 37% of the overall expenditure is maintained on average for all investment projects in the portfolio. The ex-post report will provide the total investments contribution to the intervention fields and relevant coefficient for the calculation of the LF instrument support to the climate change objectives and the environmental objectives.

In order to achieve this, each investment submitted for the provision of an LF loan, will be required to demonstrate what percentage of its cost will be allocated in a green related expenditure, which can be related to an intervention field of the table in Annex VI of the RRF regulation. In practical terms, this percentage will be verified ex-ante by the independent auditors, as part of the investment assessment.

7. Digital dimensions of the component

By design, LF will allocate at least 20% of the value of the LF Loans portfolio towards the digital transition. In that respect, the FIs will maintain a record of the digital expenditure within the LF portfolio and assure that the 20% of the overall expenditure is maintained on average for all investment projects in the portfolio. The ex-post report will provide the total investments contribution to the intervention fields and relevant coefficient for the calculation of the LF instrument support to the digital transition.

In order to achieve this, each investment submitted for the provision of an LF loan, will be required to demonstrate what percentage of its cost will be allocated in a digital related expenditure, which can be related to an intervention field of the table in Annex VII of the RRF regulation. In practical terms, this percentage will be verified ex-ante by the independent auditors, as part of the investment assessment.

8. Climate tracking and digital tagging

	Climate	Digital
16980_RRP Loan Facility- Energy efficiency and demonstration projects in SMEs or large enterprises and supporting measures compliant with energy efficiency criteria	100%	0%
16980_RRP Loan Facility- Renewable energy: solar	100%	0%
16980_RRP Loan Facility- Renewable energy: wind	100%	0%
16980_RRP Loan Facility- Commercial, industrial waste management: prevention, minimisation, sorting, reuse, recycling measures	40%	0%
16980_RRP Loan Facility- Smart Energy Systems (including smart grids and ICT systems) and related storage.	100%	0%

Part 2: Description of reforms and investments

16980_RRP Loan Facility- Support to enterprises that provide services contributing to the low carbon economy and to resilience to climate change including awareness-raising measures	100%	0%
16980_RRP Loan Facility- renewable energy (including geothermal energy)	100%	0%
16980_RRP Loan Facility- Research and innovation processes, technology transfer and cooperation between enterprises focusing on the low carbon economy, resilience and adaptation to climate change	100%	0%
16980_RRP Loan Facility Renewable energy: biomass	40%	0%
16980_RRP Loan Facility- Preparation, implementation, monitoring and control	0%	0%
16980_RRP Loan Facility Very High-Capacity broadband network (access/local loop with a performance equivalent to an optical fibre installation up to the base station for advanced wireless communication)	0%	100%
16980_RRP Loan Facility Digitising large enterprises (including e-Commerce, e-Business and networked business processes, digital innovation hubs, living labs, web entrepreneurs and ICT start-ups, B2B)	0%	100%
16980_RRP Loan Facility Digitising SMEs (including e-Commerce, e-Business and networked business processes, digital innovation hubs, living labs, web entrepreneurs and ICT start-ups, B2B)	0%	100%
16980_RRP Loan Facility Other types of ICT infrastructure (including large-scale computer resources/equipment, data centres, sensors and other wireless equipment)	0%	100%
16980_RRP Loan Facility Development and deployment of cybersecurity technologies, measures and support facilities for public and private sector users	0%	100%
16980_RRP Loan Facility Investment in advanced technologies such as: High-Performance Computing and Quantum computing capacities/Quantum communication capacities	0%	100%
16980_RRP Loan Facility Other types of ICT infrastructure (including large-scale computer resources/equipment, data centres, sensors and other wireless equipment)	0%	100%
Actions for the simplification of the business environment and its upgrading in quality and safety (ID: 16543)	0%	0%
Ease of doing business (ID: 16591)	0%	0%

9. Do no significant harm

The “Do No Significant Harm” principle has been assessed for each reform and investment of this component. The assessment has concluded that none of the measures proposed will cause significant harm to any of the six environmental objectives as defined in Article 17 of the EU Taxonomy Regulation. A two- step methodology was followed with (a) the review of six objectives checklist and (b) the substantive DNSH assessment.

Each one of the investments and reforms of Component 4.7 was assessed on the checklist to identify if and for which of the six environmental objectives a substantive DNSH assessment is required (climate change mitigation, climate change adaptation, sustainable use and protection for water and marine resources, circular economy including waste prevention and recycling, pollution prevention and control to air, water or land and the protection and restoration of biodiversity and ecosystems). The checklist assessment concluded that none of the measures of this component requires a substantive DNSH assessment as none of the measures will cause significant harm to any of the six environmental objectives.

The detailed assessment for each measure can be found in the Appendices.

10. Milestones, targets and timeline

See relevant milestone chapter in Part 3.

11. Financing and costs

General principles and guidelines

Having identified the main challenges and objectives of the recovery and resilience plan and the milestones, target and timeline of the investments and reforms determined, the main principles as well as the followed process and methodology regarding the financing and cost evaluation is presented below.

Firstly, it is noted that the cost estimate of the recovery and resilience plan is implemented in line with the basic regulation requirements which provide that the cost for each investment and reform is:

- **Reasonable:** The recovery and resilience plan provides with sufficient information and evidence that the amount of the estimated total cost of the component is appropriate.
- **Plausible:** The recovery and resilience plan provides sufficient information and evidence that the amount of the estimated total cost of the component is in line with the nature and the type of envisaged investments through the implementation of a horizontal assessment which ensures alignment between the qualitative nature of the investment in and its cost.
- **Commensurate:** The amount of the total cost of the recovery and resilience plan is commensurate to the expected impact of the envisaged measure on the economy and employment of Greece. In particular, it is assessed whether the recovery and resilience plan will have an economic impact that is aligned with the amount of its estimated cost.

Moreover, the methodology approach and the process followed with respect to the costing and the justification provided for each reform and investment is developed on the basis of four main principles which fulfil the following objectives:

- **Accuracy:** The approach and the methodology tools used to ensure that the estimated cost is reasonably close to the actual costs through the use of accounting, historical, statistical data as well as the identification of market prices.
- **Accountability and transparency:** The reforms' and investments' costs have been estimated in a way that it is clearly traceable and comprehensible, through the implementation of breakdown analysis which includes detailed information on each parameter used in the cost calculation (e.g. driver factors' unit costs, required number of units)
- **Simplicity:** The cost methodology approach followed uses simple tools and cost calculations methods so as to allow the assessment of the elements related to the costing together with the assessment of the other elements of the recovery and resilience plan in a short period of time. This aims to keep the administrative burden as manageable as possible for all parties.
- **Consistency:** The cost estimated per reform and investment is consistent with other EU policies and is in line with costs applied to similar projects via other EU funding.

In view of these principles and requirements, the methodology approach developed for the cost estimates of each investment and reform of the recovery and resilience plan follows some common guidelines. More specifically, it includes:

- Clear and evidence-based analysis of the challenges addressed and the objectives of the investments and reforms
- Detailed information with respect to the anticipated outcome of the investments and reforms
- Detailed description of how the investment and reforms are implemented (means of implementation)
- Information on the nature and size of the proposed investments and reforms as well as their timeline and the relative milestones

Cost validation process and methodology approach

On the basis of the aforementioned principles and guidelines, a specific cost validation process and methodology approach is developed which allows the costing for each investment and reform of the recovery and resilience plan and ensures the accuracy, transparency, simplicity and consistency of the estimates.

The cost analysis process of the recovery and resilience plan includes four main steps which aim to implement the following:

- 1st step: Development of one specific report per reform and investment with separate analysis per sub-projects
- 2nd step: Examination of all available information and data
- 3rd step: Detailed breakdown of all the main projects' cost items through the application of the most suitable cost validation methodology
- 4th step: Cost verification per project, component and pillar of the recovery and resilience plan

1st step – Development of Cost Analysis Reports

The cost analysis report's content for each of the investments and reforms of the recovery and resilience plan includes the following common parameters / details:

- **Project's snapshot:** Includes the introduction of the main project's characteristics (e.g. pillar, component, project title and subprojects, stakeholders), the codification of key financial figures (total and RRF estimated budget) as well as the use of the same numbering of costing fiches and technical fiches and a brief overview of the project's scope
- **Implementation means:** Illustrates an outline of the relative regulatory framework (if applicable), provides with a general outlook in regards to the maturity process and includes a cumulative table on the project's timeline regarding the milestones to be reached
- **Project's budget:** Provides with:
 - a breakdown analysis (identification of key cost parameters, overview of available information, confirmation that the estimated costs do not include VAT, are not recurrent and are not incurred before 1 February 2020),
 - indication of whether parts of the project's budget are covered by other private parties or Union financing - demonstration that these amounts have been taken out of the costs to be financed by RRF and
 - budget valuation and validation (clear methodology for estimating the costs, cost analysis per critical cost drivers, identification of unit costs, determination of the total number of units, estimation of the total required budget per project)

- **Supporting material:** Refers to the brief overview of relevant studies and / or information used for the validation of the total cost as well as the mapping of reference points used during the cost analysis (historical, comparative cost on similar projects) and provision of relevant evidence (e.g. sources)

2nd step – Examination of all available information and data

In order to ensure the accuracy and the consistency of the cost estimates, a comparative costing data analysis is conducted through the collection and examination of all the available information and data on the actual cost of similar reforms and investments that have been carried out in the past. This step mainly includes all the actions related to the collection and examination of all available information and supporting material as well as the data mining and in-depth analysis of the relative documentation.

3rd step – Development of cost analysis methodology approach

In order to implement the costing and justification of the projects, three main methodological analyses were developed which were used based on their appropriation / suitability for each of the investments and reforms included in the recovery and resilience plan:

Bottom-up estimation

The first methodology approach of cost analysis involves estimations on a granular level for each cost parameter of the project which are then aggregated to a total estimate for the entire project. The main steps of this methodological approach include the following:

- Review of historical figures / benchmarks per cost parameter from similar projects and estimation of a unit value cost
- Determination of the total number of units required and application of the unit value for the relevant estimations per cost parameter
- Final aggregation and estimation of the total cost per project

Parametric approach

This approach refers to the estimation of the total budget per project based on relevant historical figures / benchmarks. In particular, the main steps of the parametric methodological approach include the following:

- Identification of individual cost parameters based on relevant historical figures / benchmarks
- Examination of the contribution of each cost parameter to the total budget
- Evaluation of each cost parameter as a percentage of the total cost

Top-down (analogous) technique

Lastly, the top-down methodology technique includes the following main steps:

- Estimation of total budget per project based on relevant historical figures
- Apportionment of the total cost to individual cost parameter based on relevant benchmarks in regards to each unit cost

It is noted that in certain cases where there is limited availability of comparative historical figures / benchmarks, in order to proceed with an accurate and justified estimation of the cost parameters, an expert judgement was requested. In particular, the expert judgement aims to provide the following:

- Review of relevant benchmarks regarding the cost of similar projects
- Provision of judgment based upon expertise that has been acquired in a specific knowledge area and highlighting of critical factors and possible risks
- Completion and assessment of existing data and validation of estimated cost

4th step – Cost valuation and validation process

The accuracy and the validation of the cost analysis for each investment and project are achieved through the implementation of the cost valuation of the recovery and resilience plan by an independent body. In particular, the validation and valuation of the cost analysis were ensured through the following actions:

- Data collection, elaboration and review
- Continuous communication and implementation of workshops with the responsible stakeholders and entities
- Request of the required or additional data and information
- Investment size verification and cost identification
- Preparation and review of the cost analysis reports

Main elements of the methodology approach and cost parameters

The methodology approach followed for the estimation of the costs as regards the investments and reforms of the seventh component (“Promote private investments and exports and improve the business environment”) of the fourth pillar of the recovery and resilience plan (“Private Investment and Economic Transformation”) is based on the following main elements concerning the:

- Procurement of the required equipment
- Development and upgrade of IT systems
- Project management, technical support and consultation services
- Training - professional certification programs
- Organization of publicity and awareness actions

1st element: Procurement of required equipment

The costs including in this element refer to the procurement of the required equipment concerning the IT equipment, software licenses and machinery. In this context, the estimation and the justification of the costs included in this element is based on specific parameters and actions referring to the:

- Specification of the required equipment and licenses needed to be purchased in each investment and determination of the relative amount required
- Estimation of the relative unit costs in items for equipment or in years for the licenses based on the examination of all available information on the relative cost of similar investments and considering also the current market rates
- Quantification of the overall costs derive from the procurement of the required equipment and software licenses

2nd element: Development and upgrade of IT systems and platforms

The development and upgrade of the IT systems and platforms includes the estimated cost of all the required actions concerning the technical support needed for the installation, deployment, customization and interoperability of the systems as well as the pilot operation services. In particular, the costing of this element is based on the following parameters:

- Specification of the number of technical experts needed for the development of the IT systems and software
- Determination of the amount of work needed for the completion of project, which is calculated in man months based on the average productive hours (i.e. excluding sickness, courses, vacations, etc.) per month per person (full-time)
- Estimation of the overall costs based on the examination of the market rates determining the cost per man month and the total estimated working time of the technical experts

3rd element: Project management, consultation and technical assistance

The cost as regards the third element derives from the provision of the complementary services required per project which include the consultation and technical assistance services provided through the implementation of the required studies and surveys (feasibility studies, requirement analyses, solution design etc.) as well as the project management and supervisory support services. In this field, the calculation of the relative cost derived from these services is based on the following parameters:

- Identification of the specific needs per project and determination of the number of the relative experts / personnel required
- Estimation of the total man months / hours which are estimated to be provided in each service as well as the corresponding unit cost
- Calculation of the overall costs derived from the technical consulting, management and supporting services per project based on the above two parameters

4th element: Training and professional certification programs

The cost as regards the fourth element derives from the implementation of training sessions and modules, the professional certification programs and the cost for the purchase of the required educational material (books, brochures etc.). More specifically, the costing of the training programs included in the fourth pillar of the recovery and resilience plan is based on the following parameters:

- Specification of the needs per training program in terms of trainers, course instructors, coordinators, academic support etc. as well as the estimated participants / beneficiaries
- Determination of the average time per program (in hours, days or months) and estimation of the unit costs corresponding to each trainer / trainee per hour or training session based on the historical cost on similar projects and market benchmarks
- Identification of the required training material (e.g. books, guides, print or digital modules etc.) per program and determination of the unit costs (e.g. cost per page)

5th element: Publicity and awareness actions

The publicity and awareness actions include the costs needed for the organization of events and campaigns, the implementation of polls opinion surveys and the publicity of actions. The costs for the

implementation of publicity and awareness actions are estimated through the following steps and parameters:

- Determination of the type of publicity and awareness action (e.g. leaflets, press advertising, media campaigns etc.)
- Specification of the total duration needed for the completion of each one (e.g. working hours, months or years)
- Communication with the relevant stakeholders and determination of the unit cost based on the current market rates (e.g. unit costs per working hour/month/year corresponding to each awareness action)

The detailed cost assessment for each measure can be found in the Appendices.

12. Loan request justification

The loan request under the RRP is equal to € 12.727,54m according to the Regulation (EU) 2021/241 provisions, and is aimed to promote private investments in Greece through the investment titled “RRP Loan Facility”, of the component 4.7. Improve competitiveness and promote private investments and exports.

The component and the investment for which the loan is requested, is described above (component’s challenges, objectives etc) with all elements mentioned in part 2, sections 1-9 of the guidance, explicitly including the additional reforms linked to the component’s investment as an additional one of the Greek RRP.

Higher financial needs

As described above, Greece exhibits an **extremely high investment gap**, when measured either against the Union’s average or against the pre-2010 levels of investment to GDP ratio that prevailed in the Greek economy. This gap constitutes one of the main reasons explaining low productivity growth and the high unemployment ratio, the latter also constituting one of the Greek economy’s excessive imbalances identified in the context of the Semester. It also constitutes a significant obstacle to the swift recovery from the current crisis. In this respect, the Council’s recommendations to Greece in 2020 included a call to promote private investment in order to foster the recovery, as well as a call to promote the digital transformation of businesses, which is also critical in terms of productivity increases.

This investment gap is attributed to a number of reasons, namely

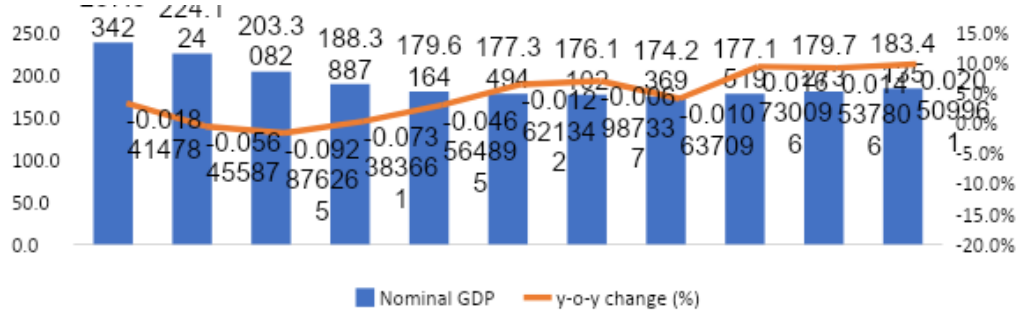
- a. the significant **constraints in bank financing**, as is evidenced by both the reduction of corporate loan balance in both absolute terms from €120.1bn in 2011 to €72.9 bn in 2020 (Figure 8) and the reduction of new disbursement of loans from 14.5% of Greece GDP in 2011, to merely 4.4% in 2019 (Figure 16), that is attributed to the significant reduction of bank deposits (Figure 7), the most important source of funding and liquidity for the banks, the significant NPLs (Figure 9) that Greek banks have accumulated over the years of the prolonged recession and the lower credit rating as well as the lower Capital Adequacy Ratios of the Greek banks (Figures 11 & 12) as compared to banks of other EU countries; and,
- b. the **much higher cost of funding that Greek Large Corporates and SMEs are incurring**, ranging from 83% to 167% higher interest rates paid by Greek Corporates as compared to Euro Area over the period 2011 to 2020 (Figure 13) and from 45% to 84% higher interest rates paid by Greek SMEs as compared to the respective rates paid by SMEs in a sample of EU member countries (Figure 14).

Consequently, for the above-mentioned reasons, Greek corporates reduced significantly their investments over the last decade, hence the investment gap accumulated in Greece as compared to EU. The new Loan Facility is being designed so as both to increase the available sources of financing and to reduce the cost of funding and thus to support large corporates and SMEs to invest more and hence close this investment gap.

Evidence

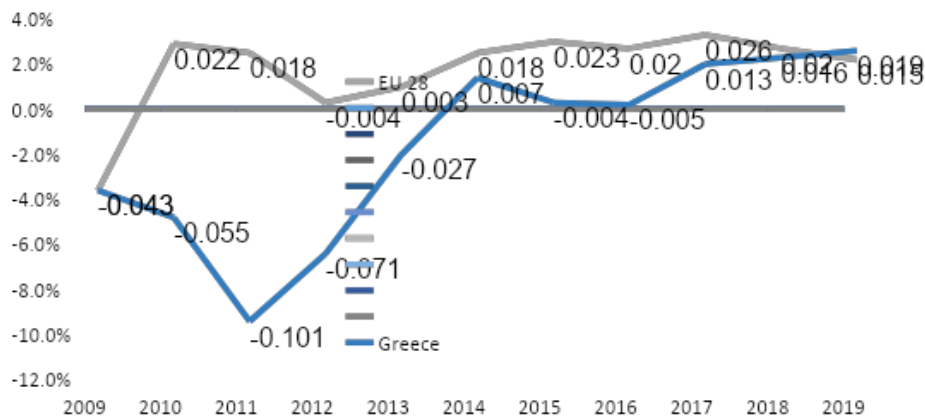
During the prolonged Greek recession, nominal GDP contracted significantly for almost a decade (Figure 1). As a result, over the period from 2009 to 2019, Greece's annual change of Real GDP diverged from European Union (EU) average (Figure 2).

Figure 1 - Evolution of Nominal GDP – Greece (€ bn)



Source: Eurostat, https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en

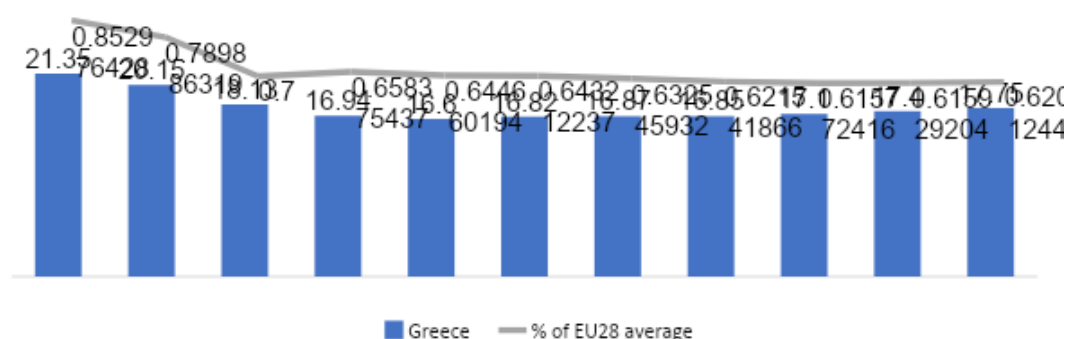
Figure 2 - Evolution of Real GDP Growth – Greece vs EU28 (%)



Source: Eurostat, <https://ec.europa.eu/eurostat/web/products-datasets/-tec00115&lang=en>

The prolonged contraction of Greece's GDP during the recession affected national per capita (p.c.) income, that from € 21.4 th. in 2009, being approx. 85.3% of the EU28 average, contracted to € 17.8 th., or 62% of the EU28 average (Figure 3).

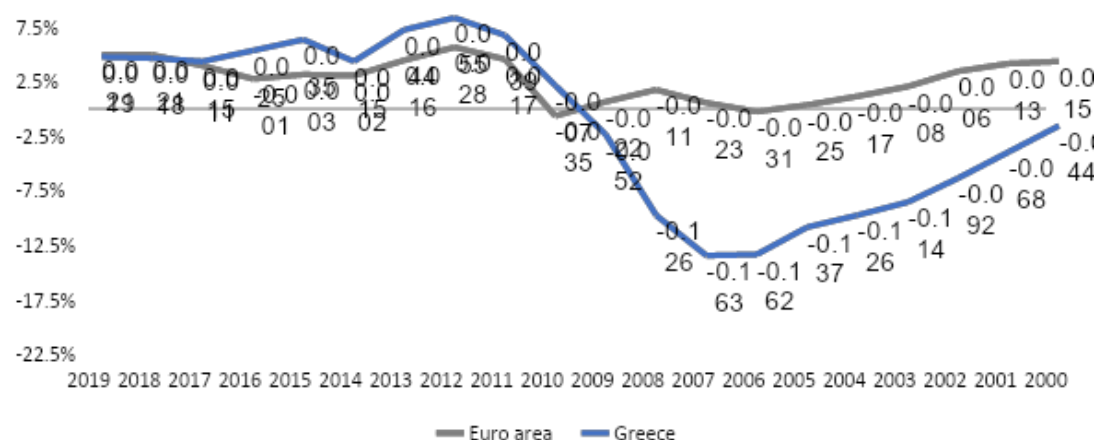
Figure 3 - Evolution of GDP per capita – Greece vs EU28 (€ th., %)



Source: Eurostat, https://ec.europa.eu/eurostat/databrowser/view/SDG_08_10/default/table

Greece entered the pandemic crisis with a declining, yet significant negative output gap estimated, for 2019, to 4.4% of potential GDP (Figure 4). At current projections, the crisis is expected to almost treble this number, reaching 12.3% in 2020. This is more than an additional of c. 75% of the projected euro area average and comparable to the heights of the Greek economic crisis.

Figure 4 - Output gap (% of potential GDP)



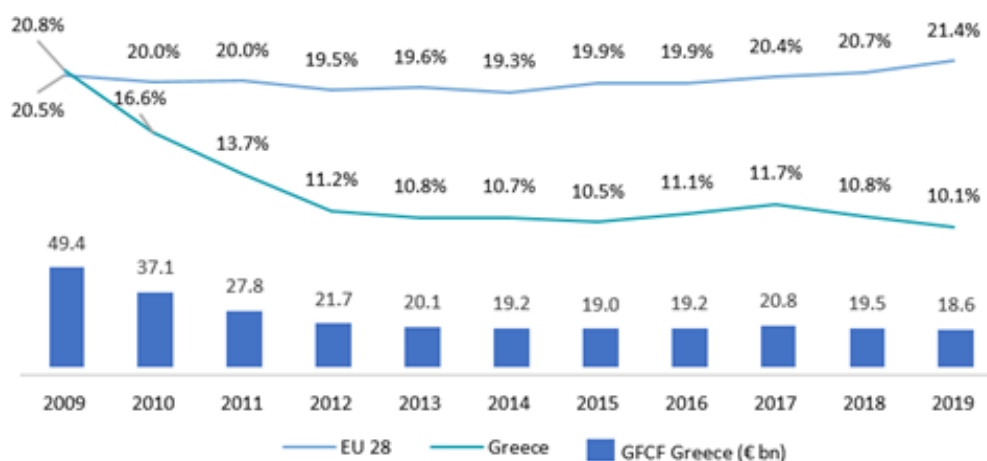
Source: AMECO

Investment gap widens

Since 2009, as a result of the prolonged recession, economic uncertainty, significant reduction of funding from Banks and higher interest rates observed in the Greek market, among others, Gross Fixed Capital Formation (GFCF) in Greece has more than halved, while still remain significantly lower than average EU level (Figure 5).

Figure 5 - Evolution of Gross Fixed Capital Formation as % of Nominal GDP - Greece vs EU28

Part 2: Description of reforms and investments

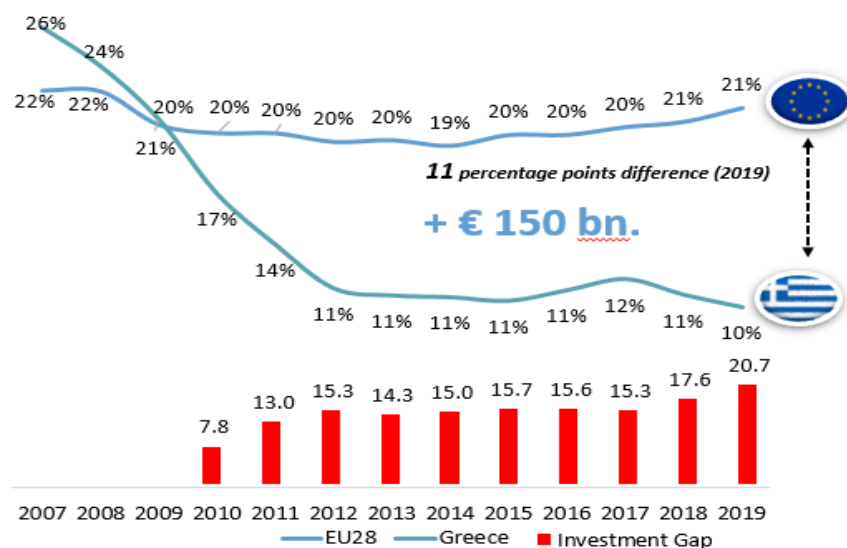


Source: Eurostat, https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=namq_10_an6&lang=en

In particular, GFCF in Greece from 20.5% of GDP (€ 49.4 bn) in 2009, equal to EU average, decreased to merely between 10.1% and 11.7% of GDP during the years 2012 to 2019, while the EU average increased progressively to 21.4% of GDP in 2019.

The current investment gap is exceptional, both in terms of Greek historic standards, as well as in terms of present euro area average. To cover partially this shortfall (estimated of the order of € 150 bn – Figure 6), significant additional investments are required in order to improve private investments and public infrastructure of the Greek economy, thereby increasing productivity, employment and national income.

Figure 6 - Evolution of GFCF (% of Nominal GDP) and Investment Gap – Greece vs EU28 (€ bn)



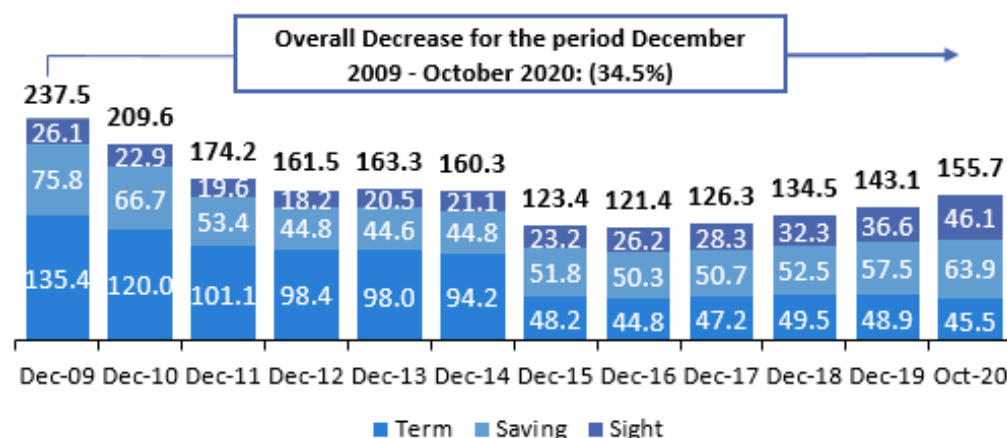
Source: Eurostat

Banking sector limited leverage capability

The implications of the prolonged Greek recession are also evident in the evolution of deposits of Greek banks. More specifically, aggregate deposits dropped from € 237.5 bn in 2009 to € 155.7 bn in 2020 (Figure

7), a cumulative decrease of 34.5%. As a result, the Greek banking system was deprived and is still affected by reduced level of deposits, the single largest source of funding.

Figure 7 - Evolution of Deposits in Greece (€ bn)

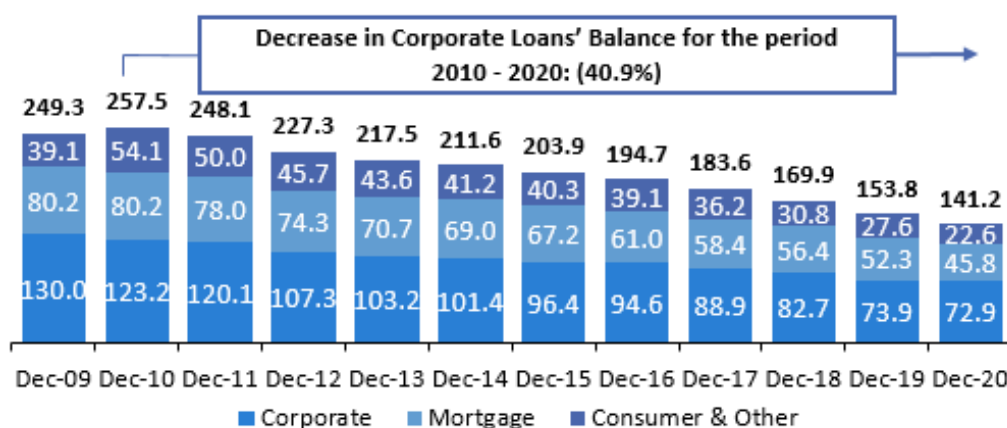


Source: Bank of Greece

In turn, the Greek banking sector's loan balance contracted (Figure 8), as a result of deterioration of loan quality, increase balance of Non Performing Loans (NPL) (Figure 9), lower Capital Adequacy Ratios of Greek banks as well as lack of funding, amongst other. In particular, NPLs in Greece, as a proportion of gross loans, remain at very high levels (35.8% as at September 2020), relative to the EU area average of 2.8%.

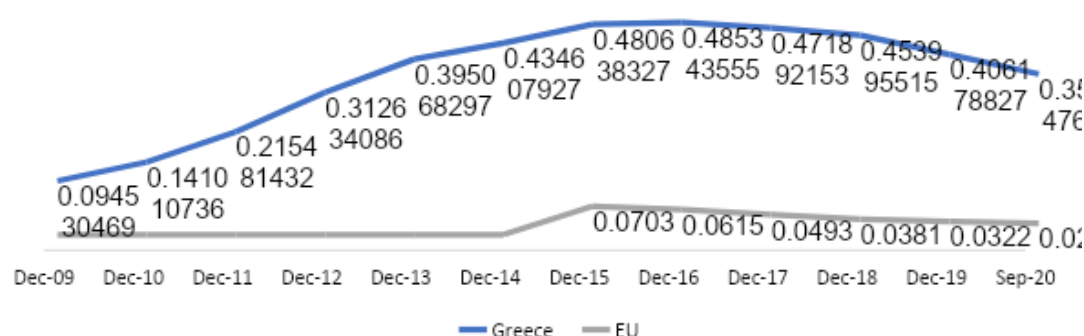
Consequently, the outstanding amount of loans has decreased every year during the last decade and from € 257.5 bn in 2010 reached € 141.2 bn in 2020 (Figure 8).

Figure 8 - Evolution of Loans in Greece (€ bn)



Source: Bank of Greece

Figure 9 - Evolution of NPL Ratios – Greece vs Euro Area

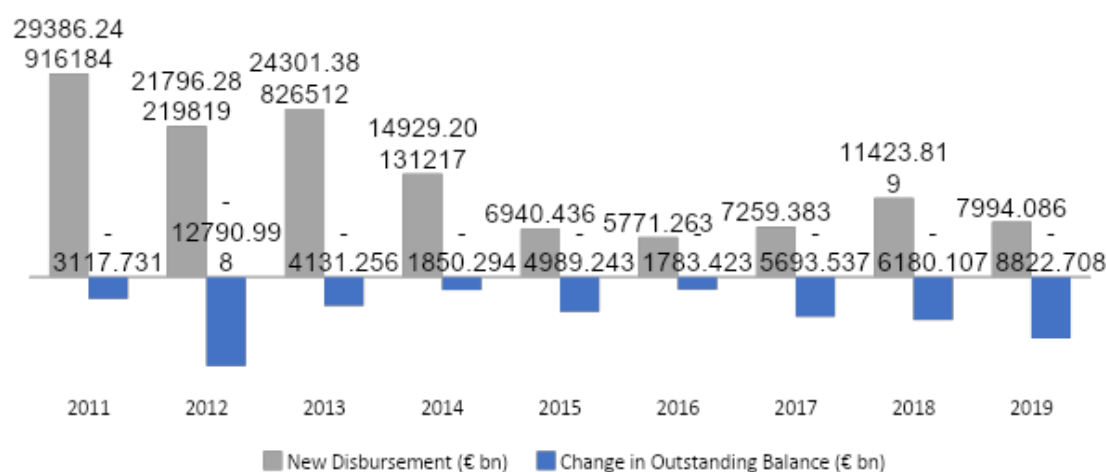


Source: Bank of Greece, ECB,

https://sdw.ecb.europa.eu/quickview.do;jsessionid=6380E7785410AC222A243330EA7D804F?SERIES_KEY=420.SUP.Q.B01.W0.Z.I7000.T.Z.Z.Z.Z.PCT.C

Additionally, the new loan disbursements dropped from € 29.4 bn in 2011 to € 8.0 bn in 2019 (Figure 10). Despite positive new corporate loan disbursements, which however include also refinancing, as already presented in Figure 8, corporate loans of the Greek banking sector continued to contract, a clear evident that, even though the economy is significantly under-invested, the Greek banks cannot fulfill the funding gap.

Figure 10 - Corporate Loans – New Disbursement¹⁰⁶ vs Change in Outstanding Balance of Corporate Loans



Source: Bank of Greece


Greek systemic banks lower capital adequacy ratios

As a result of the significant NPLs accumulated by the Greek banking system (up to 48.5% of Gross loans in 2016 & 35.8% in 9.2020), before any possible deterioration due to Covid pandemic, and the Greek systemic banks' lower credit rating (Figure 11), attributed also to Greek State sovereign rating, Greek banks had lower Capital Adequacy Ratio (CAR), (despite significant capital raised over the last decade),

¹⁰⁶ Only loans with defined maturity (i.e., excluding overdraft and credit lines). Refinancing is included.

than selected European Global Systemically Important Banks (as identified by the FSB and BCBS on 11 November 2020), indicatively by c. 1.37% - 3.12% during the period 2015 – 2020 (Figure 12).

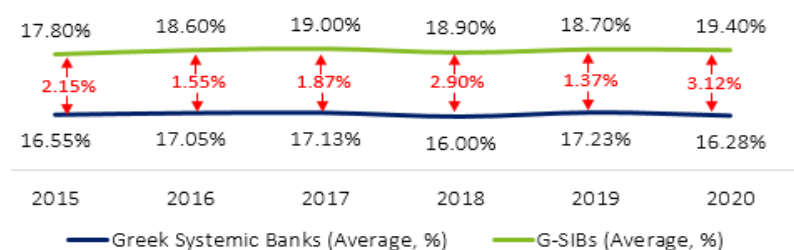
Figure 11 - Credit Rating – Greece & Greek Systemic Banks

Entity	Credit Rating Agent	2015	2016	2017	2018	2019	2020
	S&P Rating	CCC+	B-	B-	B+	BB-	BB-
	Moody's Rating	Caa3	Caa3	Caa2	B1	B1	Ba3
	Fitch Rating	CCC	CCC	B-	BB-	BB-	BB
	S&P Rating	CCC+	CCC+	B-	B-	B	B
	Moody's Rating	Caa2	Caa3	Caa2	Caa1	Caa1	Caa1
	Fitch Rating	CCC	RD	RD	CCC+	CCC+	CCC+
	S&P Rating	CCC+	CCC+	CCC+	B-	B-	B-
	Moody's Rating	Caa2	Caa3	Caa3	Caa2	Caa2	Caa2
	Fitch Rating	CCC	RD	CCC	CCC	CCC	CCC
	S&P Rating	CCC+	CCC+	CCC+	B-	B	B
	Moody's Rating	Caa3	Caa3	Caa3	Caa1	Caa1	Caa1
	Fitch Rating	CCC	RD	CCC	CCC+	CCC+	CCC+
	S&P Rating	CCC+	CCC+	CCC+	B-	B	B
	Moody's Rating	Caa3	Caa3	Caa3	Caa1	Caa1	Caa1
	Fitch Rating	NM	NM	CCC	CCC+	CCC+	B-

Source: Credit Rating Agencies Websites

As a result of lower CAR, Greek banks are facing constraints to further increase their lending portfolios, hence the need to implement the RRF through LF as opposed to guarantees.

Figure 12 - Evolution of CAR – Greek Systemic Banks vs G-SIBs



Source: Banks' Financial Statements

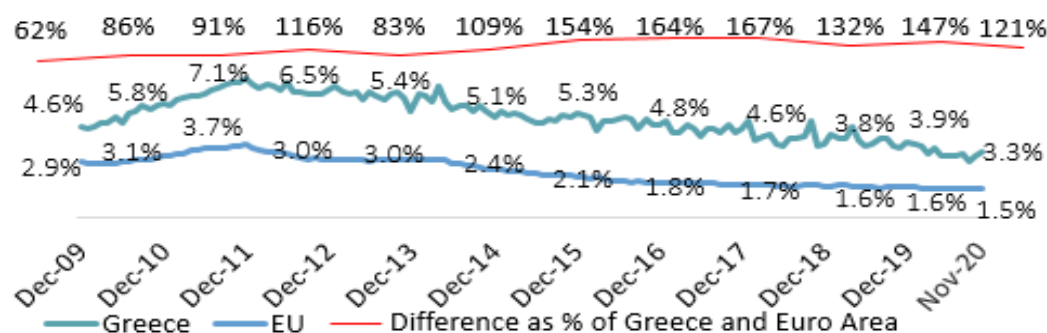
High borrowing cost for Greek firms

The high cost of credit risk feeds into lending spreads, thereby increasing the funding cost to corporates and thus reducing loan demand and competitiveness.

The spread between Greek corporate lending rates and the respective Euro Area average has reached 3.2% in 2015 and has been steadily declining since, reaching 1.8% as of November 2020.

Nevertheless, the Greek corporate lending rate remains over twofold the rate of the respective Euro Area average, thus creating an impediment for new investments and a disadvantage for Greek firms to compete internationally.

Figure 13 - Evolution of Corporate Loans Interest Rate – Greece vs Euro Area



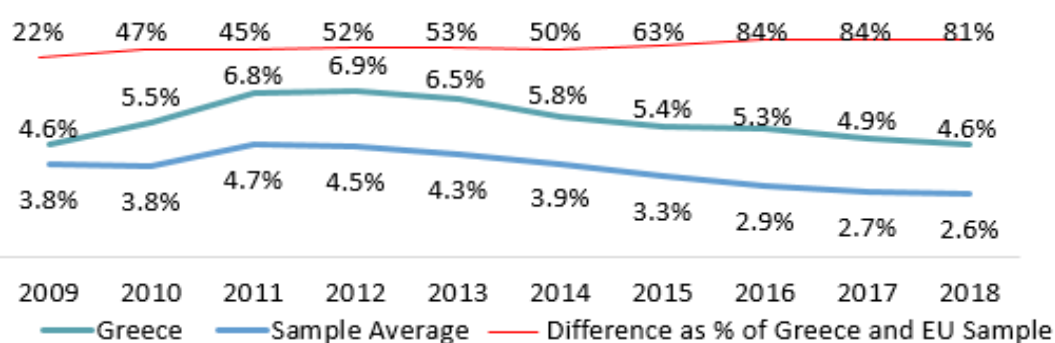
Source: ECB, <https://www.euro-area-statistics.org/bank-interest-rates-loans?cr=eur&lg=en&page=2&template=1>

For SMEs financing, access to finance remains challenging, as SME lending rates, despite reducing to 4.6% in 2018 from 6.9% in 2012, were on average c. 2% higher relative to a selection of Eurozone countries during the period 2009-2018 (Figure 14).

More recently, the median lending rate for Euro Area's SMEs charged by banks on credit lines and overdrafts between April and September 2020 was estimated at 1.7% (ECB, 23rd round of the Survey on the Access to Finance of Enterprises), while overall Greek rates are higher than those of Euro Area's countries by c. 1.8%, as they stood at 3.46% (Bank of Greece).

As a result, Greek Corporates and SMEs not only encounter loan funding problems due to prolonged deleverage of the Greek banking sector, but also are exposed to significantly higher borrowing cost than their EU peers.

Figure 14 - Evolution of SME's Loans Interest Rate – Greece vs Sample¹⁰⁷



Source: OECD Financing SMEs and Entrepreneurs 2020, <https://www.oecd-ilibrary.org/sites/0f52ae26en/index.html?itemId=/content/component/0f52ae26-en>

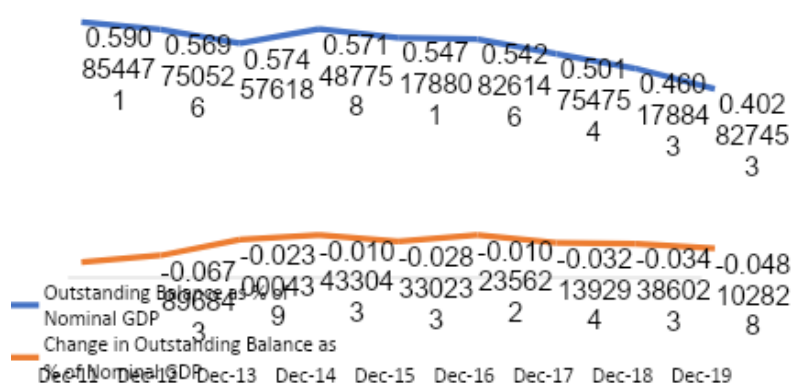
¹⁰⁷

Countries included in sample consist of Spain, Portugal, Italy, Belgium, France & Ireland

The large interest rate differential increases the cost of capital for Greek firms, thereby restricting significantly business lending and, among other negative effects, delaying the green and digital transition of the Greek private sector.

An additional evidence of the market failure is that the outstanding balance of corporate loans as % of Greece's GDP was reduced every year from 2011, when it reached 59.1%, to 40.3% in 2019 (Figure 15).

Figure 15 - Corporate Loans – Outstanding Balance as % of Greece's Nominal GDP

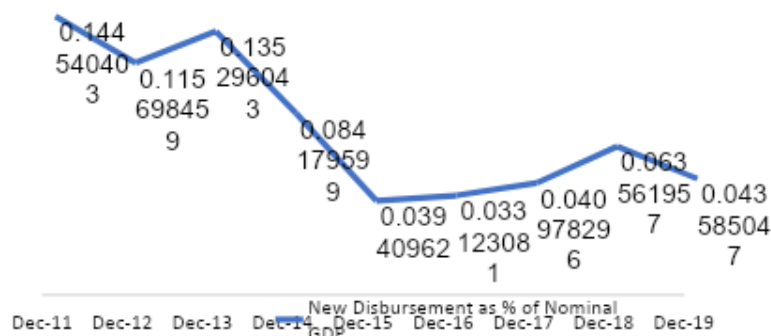


Source: Bank

of Greece, Eurostat

Respectively, new corporate loan disbursements were also significantly reduced from 14.5% in 2011 to 4.4% of GDP in 2019. (Figure 16)

Figure 16 - Corporate Loans – New Disbursement¹⁰⁸ as % of Greece's Nominal GDP



Source: Bank of Greece, Eurostat

The evidence demonstrates that there is a significant investment gap in Greece, relative to the EU 28 average. The investment gap has accumulated over the period 2011 to 2019, reaching € 150 bn.

The maximum financial contribution of €17.773.895.000,00, of the Recover and Resilience Facility Regulation (EU) 2021/241 allocated to Greece, is not sufficient for the country to address all challenges due from a decade of economic adjustment and economic stability efforts, and at the same time, (a) quickly and efficiently respond to the health and economic crises due to the pandemic of COVID 19, while (b) setting the ground for the next generation to grow in a digital, sustainable, socially inclusive, green,

¹⁰⁸ Only loans with defined maturity (i.e., excluding overdraft and credit lines). Refinancing is included.

resilient economic environment in the European Union. Ultimately, the maximum financial contribution of the RRF Regulation is not sufficient to bridge the extremely high investment gap.

Additional reforms and investments

The requested loan of the Greek RRP is set as the additional investment under the title “RRP Loan facility” and is linked to the following additional reforms under the component 4.7. Improve competitiveness and promote private investments and exports:

Reform: Actions for the simplification of the business environment and its upgrading in quality and safety

Reform: Incentivisation regime for productivity and extroversion of enterprises (increasing the size of enterprises)

Reform: Ease of doing business.

Technical Assistance

Description

Policy areas/domain: The Greek Recovery and Resilience Plan (RRP) aims to enhance growth, productivity, job creation and economic and social resilience. Furthermore, it is fully in line with the six pillars of the Recovery and Resilience Facility (RRF), with particular emphasis on the green and digital transition. The use of Technical Assistance will strengthen RRFA and support the Agency towards the implementation of the RRP and its successful completion.

Executive Summary: The implementation of the Recovery and Resilience Plan (RRP) requires the operation of a coherent and effective system of management, monitoring, control and evaluation, which will guarantee the successful implementation and achievement of the agreed milestones and targets.

The Technical Assistance measure will support and strengthen the management and coordination system of RRF Coordination Agency (RRFA) to meet the increased obligations of the national RRP and to enable its efficient and effective implementation. The financial support of specific activities, such as the close monitoring of projects' progress, audits and on-the-spot inspections, certifications, provision of information and publicity actions, is considered essential for the achievement of RRP's purposes.

Objective: The aim of the Technical Assistance measure is to strengthen the administrative capacity of RRFA towards RRP's coordination and implementation. Since the RRF is a performance-based instrument, appropriate modifications of the existing structures are needed, and additional provisions based on the specific requirements of the RRP must be taken. This measure will ensure that RRFA will be able to meet its obligations seamlessly and effectively through the strengthening of the staff capacity and the relevant administrative organization and operation actions.

Estimated cost: EUR 40 million covered by RRF.

The detailed description of the Technical Assistance activities can be found in the Appendices (ID: 16968).

Climate tracking and digital tagging

The Annual Sustainable Growth Strategy (COM (2020) 575 final) sets a minimum target of 37% of the total expenditure of the recovery and resilience plan to be related to climate and a minimum target of 20% to be related to digital.

Part 2: Description of reforms and investments

Title of reform or investment	Climate (%)	Digital (%)
Technical Assistance (ID : 16868)	0%	0%

Part 3: Complementarity and implementation of the plan

Pre-financing request

For the implementation of the RRP, the Greek Government officially requests pre-financing in the form of 13% of the non-repayable financial support and of the loan support. The calculation is presented in the following table.

	Grants (€ mil.)	Loans (€ mil.)
Sum	17,773.90	12,727.54
Pre-financing request (13%)	2,310.61	1,654.58

Milestones & disbursement requests

The approach

With regards to the working method followed, the top 8 investments were selected based on size and maturity criteria. In most cases, the size criterion defined was for the RRF budget of each investment to be greater than the amount of €200m. Key reforms were also selected based on impact and maturity criteria. Based on the EC guidelines and feedback received, milestones/targets were defined for each investment and reform. All other investments/ reforms were categorised in 28 groups based on their area of focus. The grouping is mainly based on the plan's Components with adjustments in order for the focus area to be represented clearer.

Top investments

The selected top investments are presented in the following table. The milestones, targets as well as any other further specifications required are included for each investment separately in the tables that follow.

No	Investments	Component
1	Interventions for the electricity interconnection of islands and the upgrading of the electricity network (ID:16870)	1.1. Power-up
2	Energy renovation on residential buildings	1.2. Renovate

Part 3: Complementarity and implementation of the plan

	(ID: 16872)	
3	Digitisation of archives and related services (ID: 16778)	2.2. Modernise
4	Digital Transformation of SMEs (ID: 16706)	2.3. Digitalisation of businesses
5	A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System (ID: 16913)	3.2. Education, vocational education and training, and skills
6	Central Greece Highway E-65: Trikala-Egnatia Section (ID: 16628)	4.6. Modernise and improve resilience of key economic sectors
7	Road Safety Upgrade (ID: 16631)	4.6. Modernise and improve resilience of key economic sectors
8	Cretan Northern Highway (B.O.A.K.) (ID: 16630)	4.6. Modernise and improve resilience of key economic sectors

Top investment 1: Interventions for the electricity interconnection of islands and the upgrading of the electricity network

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
1 - 1.1. Power up - 16870_ Interventions for the electricity interconnection of islands and the upgrading of the electricity network	Milestone	Interconnection of islands — contract awards	Notification of award of all contracts				Q2	2023	Notification of the award of all contracts by Independent Power Transmission Operator (IPTO) for the complete installation of: 1) Naxos - Thira cable connection; 2) Extra High Voltage Cable (EHVC) Koumoundoros – Korinthos (parts 1 and 2); and 3) Substations Milos, Folegandros, Serifos and cable connections Lavrio-Serifos, Serifos-Milos, Milos-Folegandros, Folegandros-Thira.
1 - 1.1. Power up - 16870_ Interventions for the electricity interconnection of islands and the upgrading of the electricity network	Milestone	Interconnection of islands — progress of works	Confirmation of acceptance by the IPTO of the cable laying works, approval of tests, and certification of progress				Q2	2025	Successful cable installation and tests for Naxos-Thira; 50% of EHVC Koumoundouros – Korinthos (parts one and two) completed.

Part 3: Complementarity and implementation of the plan

			for the completion of 50% of EHVC Koumoundoros – Korinthos (parts 1 and 2)						
1 - 1.1. Power up - 16870_Interventions for the electricity interconnection of islands and the upgrading of the electricity network	Milestone	Interconnection of islands — completion	Successful start of operation/electrification certified by IPTO; issuance of Successful Trial Operation Certificates				Q4	2025	Completion of all three subprojects (Naxos-Thira connection, EHVC Koumoundoros-Korinthos, Substations and other connections) successful incorporation in the Hellenic Electricity Transport System and start of operation.

Top investment 2: Energy renovation on residential buildings

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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Part 3: Complementarity and implementation of the plan

				Unit of measure	Baseline	Goal	Quarter	Year	
2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Milestone	Residential renovation – 1 st round launch	Entry into force of a Joint Ministerial Decision				Q4	2020	<p>Entry into force of a Joint Ministerial Decision to launch the programme for the first round renovations including setting up a selection process to ensure that the primary energy consumption of residences is reduced by at least 30% compared to the residence's initial performance calculated in kWh/m².</p> <p>The Joint Ministerial Decision shall set out:</p> <ul style="list-style-type: none"> - Implementation mechanism; - Selection process to achieve set primary energy saving target; - Certification mechanism to validate actual primary energy savings achieved (incl. details of possible corrective actions to ensure that primary energy saving target is met); and - Timeline.
2 - 1.2. Renovate - 16872_Energy renovation on	Milestone	Residential renovation – 2 nd round launch	Entry into force of a Joint Ministerial Decision				Q3	2022	Entry into force of a Joint Ministerial Decision to launch the programme for the second round renovations and the launch of the Programme for the

Part 3: Complementarity and implementation of the plan

residential buildings		including energy poor households							<p>energy poor residences, including setting up a selection process to ensure that the primary energy consumption of residences is reduced by at least 30% compared to the residence's initial performance calculated in kWh/m².</p> <p>The Joint Ministerial Decision shall set out:</p> <ul style="list-style-type: none"> - Implementation mechanism; - Selection process to achieve set primary energy saving target; - Provisions for energy poor residences, in accordance with criteria set out in the adopted energy poverty action plan Certification mechanism to validate actual primary energy savings achieved (incl. details of possible corrective actions to ensure that primary energy saving target is met); and - Timeline. <p>Specific provision for earmarked funds to target energy poor residences, as defined by criteria of the energy poverty action plan.</p>
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Part 3: Complementarity and implementation of the plan

2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Milestone	Residential renovation – 3 rd round launch including energy poor households	Entry into force of a Joint Ministerial Decision				Q4	2022	<p>Entry into force of a Joint Ministerial Decision to launch the programme for the third round renovations including setting up a selection process to ensure that the primary energy consumption of residences is reduced by at least 30% compared to the residence's initial performance calculated in kWh/m².</p> <p>The Joint Ministerial Decision shall set out:</p> <ul style="list-style-type: none"> - Implementation mechanism; - Selection process to achieve set primary energy saving target; - Provisions for energy poor residences, in accordance with criteria set out in adopted energy poverty action plan; - Certification mechanism to validate actual primary energy savings achieved (incl. details of possible corrective actions to ensure that primary energy saving target is met); and - Timeline. <p>Specific provision for earmarked funds to target energy poor residences, as</p>
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Part 3: Complementarity and implementation of the plan

									defined by criteria of the energy poverty action plan.
2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Target	Residential renovation – renovation of residences #1		Number of certified renovations completed	0	8 000	Q4	2023	Renovations to improve energy efficiency completed for the number of residences, equivalent to energy reduction of 30 ktoe and with primary energy savings, on average, of at least 30%. The certification issued by the Hellenic Development Bank shall provide verification of the primary energy savings achieved as confirmed by the General Directorate of the Body of Inspectors and Auditors. The certificate shall be submitted on the electronic platform https://www.buildingcert.gr/
2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Target	Residential renovation – renovation of residences #2		Number of certified renovations completed	8 000	50 000	Q4	2024	Completion of renovations to improve energy efficiency completed for 50 000 residences, equivalent to energy reduction of 125 ktoe and with primary energy savings, on average, of at least 30%. The certification issued by the Hellenic Development Bank shall provide verification of the primary energy savings achieved as confirmed by the General Directorate of the Body of Inspectors and Auditors. The certificate

Part 3: Complementarity and implementation of the plan

									shall be submitted on the electronic platform https://www.buildingcert.gr/
2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Target	Residential renovation – renovation of residences for energy poor households		Number of certified energy poor households for which interventions have been completed	0	50 000	Q4	2025	<p>Completion of interventions to achieve energy savings for at least 50 000 energy-poor households equivalent to primary energy savings, on average, of at least 30% for the entire investment.</p> <p>The certification issued by the Hellenic Development Bank shall provide verification of the primary energy savings achieved as confirmed by the General Directorate of the Body of Inspectors and Auditors. The certificate shall be submitted on the electronic platform https://www.buildingcert.gr/.</p>

Part 3: Complementarity and implementation of the plan

2 - 1.2. Renovate - 16872_Energy renovation on residential buildings	Target	Residential renovation – renovation of residences #3		Number of certified renovations completed	50 000	105 000	Q4	2025	<p>Completion of renovations to improve energy efficiency completed for 105 000 residences, equivalent to energy reduction of 213 ktoe and with primary energy savings, on average, of at least 30%.</p> <p>The certification issued by the Hellenic Development Bank will provide verification of the primary energy savings achieved as confirmed by the General Directorate of the Body of Inspectors and Auditors. The certificate will be submitted on the electronic platform https://www.buildingcert.gr/</p>
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Top investment 3: Digitisation of archives and related services

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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6 - 2.2. Modernise - 16778_Digitisa tion of archives and related services	Milesto ne	Contract(s) award for digitisation of archives	Notification of contract(s) award covering all 9 subprojects of the digitisation of archives project				Q4	2022	<p>Award of the contract(s) to cover each of the following 9 subprojects, including all their constituent components:</p> <ul style="list-style-type: none"> • Subproject 1: Digitisation of the archives of the Justice System • Subproject 2: Digitisation of the archives of the Public Health System • Subproject 3: Digitisation of the General Archives of the State • Subproject 4: Digitisation of the archives of the immigration and asylum system • Subproject 5: Digitisation of the archives of expropriations • Subproject 6: Digitisation of the archives of Urban Planning Agencies • Subproject 7A - Digitisation of the archives of the Cadastre (Ktimatologio) • Subproject 7B - Cadastre's improved digital services • Subproject 8 - Digitisation of the archives of Maritime • Subproject 9: Secure Storage of Public Sector and "Broader" Public Sector <p>Specifications shall include timelines and objectives and shall detail for each of the 9 subprojects the following:</p> <ol style="list-style-type: none"> 1. digitisation of physical records 2. migration of digital records into existing systems (incl. Justice files in OSDDY-PP/OSDDY-DD; property titles in the Information System of National Land Registry)
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									<p>3. analysis, design and implementation of Data Centres and the infrastructure located to local agencies, together with the appropriate single window (incl. central repository for patients' records; Integrated Geographical Information System of the Unified digital Map of Expropriations and Claims for expropriations; Document & Digital File Management System (DMS / DAS) for Cadastral records; installation of the archive management software).</p> <p>4. support services (incl. new electronic services related to the search and retrieval of files for citizens; public administration; researchers for State Archives).</p>
6 - 2.2. Modernise - 16778_Digitisation of archives and related services	Target	Digitisation of archives – first phase of implementation		Percentage of archives digitised, meta-tagged and migrated into existing systems, across all 9 subprojects	0	30%	Q4	2023	Completion of the digitisation of at least 30% of total archives across all 9 subprojects, calculated in number of pages digitised in total.
6 - 2.2. Modernise - 16778_Digitisation	Target	Digitisation of archives – full		Percentage of archives	30%	90%	Q4	2025	Digitisation of at least 90% of archives across all 9 subprojects, calculated in number of pages digitised for each subproject.

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tion of archives and related services		implementat ion		digitised, meta- tagged and migrated into existing systems across all 9 subprojec ts					
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Top investment 4: Digital Transformation of SMEs

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
7 - 2.3. Digitalisation of businesses - 16706_Digital Transformation of SMEs	Milestone	Digital transformation of SMEs - calls for proposals	Published call for proposals				Q1	2022	Launch of all competitive calls for proposals for funding for the voucher scheme for the Digital Transformation of Businesses (subprojects 1), Industrial Data Platforms and Data Spaces (subprojects 2) and Cash Registers and POS ecosystem upgrade (subprojects 4), with terms of reference including

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									<p>eligibility criteria that ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p> <p>Investments shall be targeted towards technologies and services to foster the digitalisation of small- and medium-sized enterprises, namely e-payment, e-sales and e-invoicing applications, tools for digital advertising, systems for teleworking, business analytics, digital upskilling, backup and disaster recovery services, artificial intelligence, Internet of Things, supply of integrated solutions for contactless service, cybersecurity systems, cloud infrastructures and services, industrial data platform templates and software, cash Registers and POS ecosystem upgrade.</p>
7 - 2.3. Digitalisation of businesses - 16706_Digital Transformation of SMEs	Milestone	Digital transformation of SMEs - Delivery of products and services	Report by the Ministry of Digital governance attesting the full implementation of all 4 subprojects				Q2	2025	Selection of beneficiaries and delivery of equipment and services to SMEs under the competitive calls for proposals, in compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental

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			including the following targets: 100 000 SMEs supported with digitalisation voucher (Subproject 1), , 1000 SMEs supported with the voucher scheme in their transition to cloud only (subproject 2); 4 lighthouse Industrial Data Platforms and the Gaia X SME hub established (Subproject 3). Subproject 4 concluded with the upgrade of 500 000 cash registers and replacement of 100 000 POS systems.						legislation. In particular, the following shall be achieved: - Under Subproject 1: 100 000 SMEs received digitalisation support financed by voucher scheme; - Under subproject 2: cloud infrastructure completed, 1 000 SMEs supported financially by the voucher scheme in their transition to cloud only, of Industrial Data Platforms (IDP) template delivered and the Greek Gaia-X SME hub established, and 4 lighthouse IDPs established; - Under Subproject 4: 500 000 cash registers upgraded or replaced with computer based solutions, 100 000 old POS systems replaced (provide certification from beneficiaries on integration of new technology/product /proof of payment to attest to the purchase of products and services).
7 - 2.3. Digitalisation of businesses - 16973_Establishment	Milestone	Digital transformation of SMEs	Entry into force of primary legislation and				Q2	2025	Identify and implement actions for the establishment of a digital business ecosystem that fosters digital

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of a digital business ecosystem and introduction of tax incentives for the facilitation of the SMEs digital transformation		Legislative reform to incentivise uptake of technologies	secondary acts by government as relevant for the introduction of tax incentives to digital investment, and reports by the Ministry of Digital Governance documenting the establishment of a digital business ecosystem.						<p>transformation of SMEs, in particular by (a) creating digital infrastructure through financing the supply and implementation of digital tools and processes as well as raising digital awareness of business executives and (b) directly incentivising investments in digital transformation, utilising super-deduction of investments on tangible and intangible assets in order to change the business environment and increase investments in modern digital technologies.</p> <p>Legislation on tax incentives to support the greening of the economy, energy and digital transition, shall comply with eligibility criteria that ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p> <p>Investments shall be targeted towards incentivising investments in digital transformation, namely the acquisition of products and services relating to e-payment, e-sales and e-invoicing applications, tools for digital advertising, systems for teleworking, business analytics, digital upskilling, backup and</p>
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									disaster recovery services, artificial intelligence, Internet of Things, integrated solutions for contactless service, cybersecurity systems, cloud infrastructures and services, industrial data platform templates and software, cash Registers and POS ecosystem upgrade.
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Top investment 5: A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
9 - 3.2. Education, vocational education and training, and skills - 16913_A New Strategy for Lifelong Skilling:	Milestone	Lifelong learning strategy entry into force of legislation	Entry into force of primary and secondary legislation				Q2	2022	On the basis of the National Strategy for Lifelong Learning, primary and secondary legislation will enter into force setting out the key elements of the new lifelong learning framework (including provisions to establish the national Skills Council as a central supervisory body, to set up lifelong skilling accounts, national Eligible Training Provider List and Scorecard and a labour market diagnosis mechanism).

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Modernising and Upgrading Greece's Upskilling and Reskilling System									
9 - 3.2. Education, vocational education and training, and skills - 16913_A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System	Target	Training programmes lifelong learning strategy completion validation		Number of persons who received a certificate of successful participation in a training programme	0	150 000	Q4	2022	<p>Completion of training programmes on digital, green and financial literacy skills for at least 150 000 participants and validation and certification of skills acquired for all successful participants.</p> <p>This investment tackles the need for digital, green and financial literacy skills of the following population groups: a) unemployed, especially the youth and long-term unemployed, b) employees, especially those with high unemployment risk and those who are left behind by workspace technology, c) employees, especially at SMEs with limited in-house training capacity, d) public sector employees, including teachers. Skills offered are: a) Baseline digital skills, b) Medium-level digital skills, c) Green skills and d) Financial literacy skills.</p>

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9 - 3.2. Education, vocational education and training, and skills - 16913_A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece's Upskilling and Reskilling System	Target	Training programmes lifelong learning stagey completion validation		Number of persons who received a certificate of successful completion of the training programme	150 000	500 000	Q4	2025	<p>Completion of training programmes on digital, green and financial literacy skills for 500 000 participants (cumulative, wave 1 and wave 2) and validation and certification of skills acquired through both waves of training programmes for all successful participants.</p> <p>Out of the total number of participants, at least 33% (167 000 participants) shall have carried out training programmes related to green skills and jobs in the green economy.</p>
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Top investment 6: Central Greece Highway E-65: Trikala- Egnatia Section

Related Measure	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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(Reform or Investment)				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16628_Central Greece Highway E-65: Trikala-Egnatia Section	Milestone	Start of construction works in E-65	Report by an independent engineer ratified by Ministry Of Infrastructure				Q2	2022	Start of construction works for the E-65 Central Greece Highway: Trikala- Egnatia
17 - 4.6. Modernise and improve resilience of key economic sectors - 16628_Central Greece Highway E-65: Trikala-Egnatia Section	Milestone	E-65 works — first phase of construction	60% of project completed supported by report by an independent engineer ratified by Ministry Of Infrastructure				Q4	2023	60% of the value of the construction works for the E-65 Central Greece Highway: Trikala-Egnatia shall have been completed and endorsed by an independent engineer.
17 - 4.6. Modernise and improve resilience of	Milestone	E-65 works — completion	100 % of project completed, supported by report by an				Q2	2025	Completion of project including incidental works (such as all toll stations, lighting and safety measures. in place necessary for the certification and functioning of the motorway).

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key economic sectors - 16628_Central Greece Highway E-65: Trikala-Egnatia Section			independent engineer ratified by Ministry Of Infrastructure						
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Top investment 7: Road Safety Upgrade

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16631_Road Safety Upgrade	Milestone	Contract award for road safety – first batch of contracts	Notification of award of contracts for at least 2 300 locations.				Q2	2023	Contracts awarded for at least 2 300 locations ensuring a) improvement of the road safety as part of the program “Road Safety Improvement Program (PEVOA)” on approximately 7 000 dangerous locations; b) minor improvements for the rest of 2 500 km

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17 - 4.6. Modernise and improve resilience of key economic sectors - 16631_Road Safety Upgrade	Milestone	Contract award for road safety – all contracts	Notification of award of 100% of contracts				Q2	2024	Contracts awarded for 100% of the road safety budget under this project ensuring a) improvement of the road safety as part of the program “Road Safety Improvement Program (PEVOA)” on at least 7 000 dangerous locations; b) minor improvements for the rest of 2 500 km
17 - 4.6. Modernise and improve resilience of key economic sectors - 16631_Road Safety Upgrade	Milestone	Road safety project completion	Proof by an independent engineer of the completion of all road safety works				Q4	2025	Completion of the project and achievement of a) improvement of the road safety as part of the program “Road Safety Improvement Program (PEVOA)” on at least 7 000 dangerous locations; b) minor improvements for the rest of 2 500 km

Top investment 8: Cretan Northern Highway (B.O.A.K.)

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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17 - 4.6. Modernise and improve resilience of key economic sectors - 16630_Cretan Northern Highway (B.O.A.K.)	Milestone	Notification of award of contracts for three sub-projects of BOAK	Notification of award of contracts				Q2	2023	Notification of award of contracts for a) the Concession Agreement; b) the Public-Private Partnership; and c) Public Work.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16630_Cretan Northern Highway (B.O.A.K.)	Target	Progress of construction works of BOAK		Percentage of the value of works completed, approved by report by an independent engineer and approved by Ministry of Infrastructure	0	60	Q2	2025	60% of the value of the construction works of the 'Northern Axis of Crete' road completed and endorsed by an independent engineer for Sub-project two: (Hersonissos-Neapolis) and Sub-project three: (Neapolis-Agios Nikolaos).
17 - 4.6. Modernise and improve resilience of key economic sectors - 16630_Cretan Northern Highway (B.O.A.K.)	Milestone	Project completion of BOAK	Completion of 100% of the value of the works certified by an independent engineer. The certificate of completion shall be approved by				Q4	2025	Sub-project two: (Hersonissos-Neapolis) and Sub-project three: (Neapolis-Agios Nikolaos) completed and in operation. For sub-project one (Chania-Heraklion), the following works shall have been completed corresponding to 15% of the cost of the project: 1. Completion of civil engineer works for the existing bypasses of Chania, Heraklion and Rethymnon.

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			the Ministry of Infrastructure.						<p>2. Completion of civil engineer works for the part Vrises-Atsipopoulo, 21.9 km which comprises of 2 interchanges. Total length of bridges: 2.036m Total length of underground works (excavations, foundations, drainage, culverts, earthworks, and ancillary works): 10,215m</p> <p>3. Completion of civil engineer works for the part Amari-Skaleta, 12,4 km which comprises of 1 interchange Total length of bridges: 710 m. Total length of underground works (excavations, foundations, drainage, culverts, earthworks, and ancillary works): 4.230m The completion shall be certified by the Independent Engineer and the Ministry of Infrastructure</p>
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Key reforms

The selected key reforms are presented in the following table. The milestones, targets as well as any other further specifications required for are included for each reform separately in the tables that follow.

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No	Reforms	Component
1	Restructuring and enhancement of the RES-CHP account revenues - Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the implementation of monitoring mechanism, the participation of demand response and an extensive reform of the licensing procedure for new RES (ID: 16865 & 16860)	1.1. Power up
2	Preparation of Urban Plans in implementation of the urban policy reform (ID: 16879)	1.2 Renovate
3	Framework for installation and operation of EV (ID:16281)	1.3 Recharge and refuel
4	Waste management law for the implementation of sustainable landfilling and recycling (ID: 16772)	1.4 Sustainable use of resources, climate resilience and environmental protection
5	Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies (ID: 16929) - Interconnection and interoperability of registries, systems and services for data exchange between national public organisations (ID: 16782)	2.2 Modernise
6	Modernisation and Simplification of Labour Law (ID: 16744)	3.1 Promote job creation and participation in the labour market
7	Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure	3.3 Improve resilience, accessibility and sustainability of healthcare

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No	Reforms	Component
8	Online cash registers & POS (ID: 16614)	4.1 Making taxes more growth friendly and improving tax administration and tax collection
9	Reforming Public Administration (ID: 16972)	4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption
10	Actions for the simplification of the business environment and its upgrading in quality and safety (ID: 16543) - Ease of doing business (ID: 16591)	4.7. Improve competitiveness and promote private investments and exports

Key reform 1: Restructuring and enhancement of the RES-CHP account revenues - Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the implementation of monitoring mechanism, the participation of demand response and an extensive reform of the licensing procedure for new RES

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
1 - 1.1. Power up - 16865_Restructuring and enhancement of	Milestone	RES account — legislation to amend L. 4001/2011;	Entry into force of legislation and				Q2	2022	1) Establishment of the new Renewable Energy Sources (RES) account, for units commissioned from 1 January 2021 onwards, including amending legislation,

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the RES CHP Account revenues		entry into force of all relevant decisions, including codes, by ministries, by the National Regulatory Authority (RAE) and by the Administrator of Renewable Energy Sources and Guarantees of Origin (DAPEEP).	relevant executive decisions.						<p>ministerial decision, and regulatory decisions (codes). The new RES account will include mechanisms to ensure its financial viability, also in case of unforeseen imbalances.</p> <p>2) Entry into force of a Guarantees of Origin trading system that shall allow consumers to voluntarily support RES electricity. The Guarantees of Origin (GO) system shall include:</p> <ol style="list-style-type: none"> 1) Adoption of a GO issuance/auctioning scheme for Feed-in tariffs RES 2) Accreditation of “green” retail products 3) Accreditation of “green business” standards.
1 - 1.1. Power up - 16860_Streamline the efficient operation of the new electricity market model and the development of new RES plants to reach NECP targets through the implementation of monitoring mechanism, the	Milestone	RES account — market reforms and simplification of licensing	Entry into force of all relevant legislation, including ministerial decisions, and regulatory framework by RAE and DAPEEP				Q2	2022	<p>1) Establishment and full operation of a Market Monitoring and Surveillance Mechanism as well as full participation of Demand Side Response in the balancing market.</p> <p>2) Completion of reform on simplification of RES licensing, including simplification and digitalisation of procedures, short and binding administrative response times and accountability procedures for unnecessary delays, reduction of the necessary documentation and procedures, as well as a</p>

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participation of demand response and an extensive reform of the licensing procedure for new RES									new dedicated framework for offshore RES plants.
1 - 1.1. Power up - 16865_Restructuring and enhancement of the RES CHP Account revenues	Target	RES account — capacity increase target 1		New capacity (GW) of renewable energy sources put in operation	0	1	Q2	2023	New RES capacity installed and operational
1 - 1.1. Power up - 16865_Restructuring and enhancement of the RES CHP Account revenues	Target	RES account — capacity increase target 2		New capacity (GW) of renewable energy sources put in operation	1	2	Q2	2024	New RES capacity installed and operational
1 - 1.1. Power up - 16865_Restructuring and enhancement of the RES CHP Account revenues	Target	RES account — capacity increase target 3		New capacity (GW) of renewable energy sources put in operation	2	3	Q2	2025	New RES capacity installed and operational

Key reform 2: Urban Plans

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
2 - 1.2. Renovate - 16879_Preparation of Urban Plans in implementation of the urban policy reform	Milestone	Urban Plans award	Notification of award of contracts				Q4	2022	Notification of award of 30% of all contracts (for all interventions): 1. preparation of Local Urban Plans; 2. preparation of Special Urban Plans; 3. preparation of independent plans for the definition of the Development Rights Transfer Zones; 4. preparation of independent plans for the Delimitation of Settlements; and 5. preparation of independent plans for the characterization of Municipal Roads. Local Urban Plans to include a dedicated chapter on climate change measures and prevention and management of climate related risks);
2 - 1.2. Renovate - 16879_Preparation of Urban Plans in implementation of	Milestone	Urban Plans award	Notification of award of contracts				Q4	2023	Notification of award of 100% of all contracts (for all interventions): 1. preparation of Local Urban Plans; 2. preparation of Special Urban Plans;

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the urban policy reform									<p>3. preparation of independent plans for the definition of the Development Rights Transfer Zones;</p> <p>4. preparation of independent plans for the Delimitation of Settlements; and</p> <p>5. preparation of independent plans for the characterization of Municipal Roads.</p> <p>The actions shall concern in total 750 municipal units. Local Urban Plans to include a dedicated chapter on climate change measures and prevention and management of climate related risks);</p>
2 - 1.2. Renovate - 16879_Preparation of Urban Plans in implementation of the urban policy reform	Target	Completion of urban planning		Number of municipal units for which the projects have been completed	0	750	Q4	2025	<p>Completion of local urban plans in 700 municipal units, development Rights Transfer Zones in 50 municipal units; delimitation of settlements in 50 municipal units; and characterizations of municipal roads in 120 municipal units and completion of 5 Special Urban Plans. Altogether, and considering that some of these actions are carried out in the same municipal unit, actions shall be completed in 750 municipal units.</p>
2 - 1.2. Renovate - 16894_Establishment of new special spatial planning for RES, industry, tourism and aquaculture	Milestone	Adoption of Special Spatial Frameworks	Adoption of four special spatial frameworks for Renewable Energy Sources (RES),				Q4	2025	<p>Adoption by the Ministry of Environment of four special spatial frameworks for Renewable Energy Sources (RES), Tourism, Industry, Aquaculture.</p>

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			Tourism, Industry and Aquaculture						
2 - 1.2. Renovate - 16891_Establishment of new maritime spatial planning	Milestone	Adoption of maritime strategy	New maritime spatial strategy adopted				Q4	2025	Adoption by the Ministry of Environment and Energy of the maritime spatial strategy.

Key reform 3: Framework for installation and operation of EV charging infrastructure

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
3 - 1.3. Recharge and refuel - 16281_Framework for installation and operation of EV charging infrastructure	Milestone	Charging points for electric vehicles – Entry into force of legal framework	Entry into force of Ministerial Decisions adopted.				Q3	2021	Entry into force of all Ministerial Decisions (MDs) provisioned in law 4710/ 2020 and signed by the Minister of Environment and Energy; Minister of Infrastructure and Transport, Minister of Interior and Minister of Finance, organizing the electric vehicles' market, with focus on charging services market and provides tax based incentives for the purchasing of electric vehicles and the installation of charging infrastructure for electric vehicles.

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3 - 1.3. Recharge and refuel - 16281_Framework for installation and operation of EV charging infrastructure	Target	Charging points for electric vehicles – local plans approved		Number of plans adopted by the Ministry of Environment and Energy	0	300	Q4	2022	Adoption by the Ministry of Environment and Energy of at least 300 plans submitted by local authorities for the installation of publicly available electric vehicle charging points.
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Key reform 4: Waste management and water reform for sustainable use of resource

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16772_Waste management law for the implementation of sustainable	Milestone	Entry into force of waste management law	Entry into force of legislation				Q3	2021	Entry into force of a law for recycling and landfilling as well as the introduction of incentives for municipalities to achieve high rates of reuse and recycling and the implementation of a landfill tax. The landfilling tax shall be applied as of the first quarter of 2022 and the tariffs shall progressively increase until they reach the upper threshold of the landfilling tax by the third quarter of 2024.

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landfilling and recycling									
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16772_Waste management law for the implementation of sustainable landfilling and recycling	Milestone	Entry into force of waste management regulator law	Entry into force of legislation				Q3	2022	Entry into force of a law to: <ul style="list-style-type: none"> - set-up a National Waste Regulatory Authority, its operation and its responsibilities; - Reform of the regional and local waste management bodies (FOSDA); and - Introduce sound costing and pricing policies in line with “pay as you throw” and “polluter pays” principles.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16979_Establishment of new water and wastewater regulatory authority	Milestone	Entry into force of water regulator law	Entry into force of legislation				Q4	2022	Entry into force of a law for the establishment and the operation of a new Water and Wastewater Regulatory Authority.
4 - 1.4. Sustainable use	Milestone	Set-up and functionin	Entry into force of a				Q2	2023	The new National Waste Regulatory Authority is staffed and equipped with premises.

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of resources, climate resilience and environmental protection - 16772_Waste management law for the implementation of sustainable landfilling and recycling		g of the waste management regulator	Joint Ministerial Decision and all necessary administrative and legislative measures for setting up the Authority						
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16979_Establishment of new water and wastewater regulatory authority	Milestone	Set-up and functioning of the water management regulator	Entry into force of a Joint Ministerial Decision and all necessary administrative and legislative measures for setting up the Authority				Q4	2023	The new National Water and Wastewater Regulatory Authority is staffed and equipped with premises.

Key reform 5: Towards Public Administration's "customer"-oriented services through simplification and improvement of processes - Interconnection and interoperability of registries, systems and services

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Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
6 - 2.2. Modernise - 16929_Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems enhancements and compliance with European strategies and policies	Milestone	Set up of the national registry of procedures and implementation of national plan for process simplification (first phase)	Report by the Ministry of Digital Governance attesting to the operationalisation of national registry of procedures and the completion of the work streams under the first phase of the National Programme of Process Simplification				Q3	2022	Operationalisation of the national registry of procedures ("Diavlos", as per article 90 of Law 4727/2020), and integration into gov.gr portal; and completion of first phase of the simplification work streams as per the timeline provided by the 4-year National Programme of Process simplification, including the digitalisation of public procurement procedures.
6 - 2.2. Modernise - 16929_Towards Public Administration's "customer"-oriented services through simplification and	Milestone	Implementation of national plan for process simplification (second phase)	Report by the Ministry of Digital Governance attesting to the completion of the second phase of simplification work streams under the				Q4	2023	Complete the second phase of the simplification work streams as per the timeline provided by the 4-year National Programme of Process simplification, including digitisation of impact assessment processes, start-up of sole proprietorships, simplification of procedures relating to citizen 'life events' including birth, passing

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improvement of processes, systems enhancements and compliance with European strategies and policies			National Programme of Process simplification						away, and divorce, simplification of justice procedures related to lawyers, court decisions, digital signatures, certificates issued by courts, driver licence renewal and operation of myfoto.gov.gr and electronic circulation of documents within the public administration (attested by issued circulars).
6 - 2.2. Modernise - 16782_Interconnection and interoperability of registries, systems and services for data exchange between national public organisations	Milestone	Regulatory basis for interconnection and interoperability of registries	Report by the Ministry of Digital Governance attesting the adoption of the regulatory changes including all connected primary and secondary legislation for the interconnection and interoperability of registries and services				Q4	2024	The adoption of regulatory changes to establish a wide regulatory basis for the interconnection and interoperability of registries and services for data exchange between national public organizations in line with the new European Interoperability framework. Reporting by the Ministry of Digital Governance on the successful implementation of the action plan on simplification and improvement of processes, systems enhancements and compliance with European strategies and policies.
6 - 2.2. Modernise - 16929_Towards Public Administration's "customer"-oriented services through simplification and improvement of processes, systems	Milestone	Completion of strategy on reducing administrative burden and national plan for process simplification (final phase)	Report by the Ministry of Digital Governance attesting the completion of all the simplification and digitalization work streams under the 4-year action plan for the National Programme for Process Simplification,				Q4	2025	Full implementation of the medium-term strategy for the reduction of administrative burden and creation of customer-centric services within the public administration and improvement of processes, systems enhancements and compliance with European strategies and policies, through the completion of the final phase of work under the 4-year National Programme for Process Simplification. This shall also include

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enhancements and compliance with European strategies and policies									the full set up of the Observatory for monitoring the impact of regulation and the National Registry of Procedures ("Diavlos") (attested by a report by the Ministry of Digital Governance).
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Key reform 6: Modernisation and simplification of the Labour Law and Digital Transformation of Labour Systems

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
8 - 3.1. Promote job creation and participation in the labour market - 16744_Modernisation and Simplification of Labour Law	Milestone	Entry into force Labour law	Provision in the law indicating the entry into force -				Q3	2021	Entry into force of the Labour Law which shall modernise a) the law for individual labour, b) the law for collective labour and the trade union law, c) the ERGANI IT system of the Ministry of Labour that is used for monitoring the labour market and for detecting undeclared and under-declared work, and d) the framework on work-life balance.
8 - 3.1. Promote job creation and participation in the labour market - 16750_Digital	Milestone	Labour IT systems contract award	Notification of award of contracts				Q4	2022	Completion of contract award for the following projects: - Single IT system for labour market monitoring (ARIADNE)

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Transformation of Labour Systems									<ul style="list-style-type: none"> - Occupational Health and Safety (HERIDANOS) - Statutory minimum wage setting process - Digitisation of the Single Pension Fund's (e-EFKA) insurance history - New integrated information system for e-EFKA (EFKA IITS) - Upgrade of the digital pension award system (ATLAS)
8 - 3.1. Promote job creation and participation in the labour market - 16942_Digital Transformation of the Public Employment Service (OAED)	Target	OAED Digitalisation A3 A4 pages digitised archives		Number of A3/A4 pages of OAED archives digitised	0	8 000 000	Q4	2023	Completion of digitisation of 8 000 000 A3/A4 pages of OAED archives as confirmed by a report by OAED.
8 - 3.1. Promote job creation and participation in the labour market - 16750_Digital Transformation of Labour Systems	Milestone	ATLAS pension award system completion	Entry into force of secondary legislation enacting the system				Q2	2024	Completion of upgrade of the digital pension award system (ATLAS) allowing for the better handling of pension and lump sum benefits claims, through the entry into force of secondary legislation enacting the system
8 - 3.1. Promote job creation and participation in the	Milestone	ARIADNE Single IT system	Entry into force of secondary				Q4	2024	Implementation of the single IT system for labour market monitoring (ARIADNE) through the entry into force of secondary legislation

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labour market - 16750_Digital Transformation of Labour Systems		secondary legislation entry into force	legislation launching nation-wide collection of data through the system						<p>launching nation-wide collection of data through the system.</p> <p>The system will ensure digital recording of working time (e-Work card, time and attendance) and a single gate for employment and social insurance administrative data.</p>
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Key reform 7: Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure (ID: 16816)

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare -	Milestone	Clawback – legislation entry into force	Entry into force of the revised legislation introducing risk-sharing and the binding targets for minimum				Q3	2021	Entry into force of a legal framework (primary law) for risk sharing in the calculation of the clawback by setting a binding target of clawback reduction over the next years. The reform aims at a minimum reduction of clawback amounts by EUR 50 000 000 (2022), EUR 150 000 000 (2023), EUR 300 000 000 (2024) and EUR 400 000 000

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16816_Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure			clawback reduction according to the timeline outlined in the Description.						(2025) respectively, from the 2020 levels. To the extent that this is not achieved, the difference between the targeted reduction and the actual reduction for each year shall not be clawed back from the pharmaceutical industry and the relevant amount shall be borne by the state budget up to the targeted reduction in the clawback amounts.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16816_Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure	Target	Clawback decrease 50 000 000 - step 1		Decrease in the amount of clawback compared with the 2020 levels (EUR million)	0	50	Q2	2023	Enforce previously adopted efficiency enhancing measures to achieve a reduction of the 2022 pharmaceutical clawback both for outpatient and inpatient pharmaceuticals by EUR 50 000 000 compared with the 2020 levels, supporting the resilience of the health care system. To the extent that this is not achieved, the difference between the targeted reduction and the actual reduction for each year shall not be clawed back from the pharmaceutical industry and the relevant amount shall be borne by the state budget up to EUR 50 000 000.

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10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16816_Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure	Target	Clawback decrease 150 000 000 - step 2		Decrease in the amount of clawback compared with the 2020 levels (EUR million)	0	150	Q2	2024	Enforce previously adopted efficiency enhancing measures to achieve a reduction of the 2023 pharmaceutical clawback, both for outpatient and inpatient pharmaceuticals, by EUR 150 000 000 compared with the 2020 levels, supporting the resilience of the health care system. To the extent that this is not achieved, the difference between the targeted reduction and the actual reduction for each year shall not be clawed back from the pharmaceutical industry and the relevant amount shall be borne by the state budget up to EUR 150 000 000.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16816_Reforms and acceleration of investments in the Healthcare	Target	R&D pharmaceutical investment proof 2021-23		Investment (in EUR million), applied through offsets of an equivalent amount with the clawbacks	150	250	Q2	2024	Carry out investments in pharmaceuticals R&D for an amount of EUR 250 000 000. The investments shall be applied through offsets of an equivalent amount with the clawbacks of the previous three years (EUR 100 000 000 in 2021, EUR 75 000 000 in 2022, EUR 75 000 000 in 2023) up to an overall amount that will not exceed EUR 250 000 000).

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Sector - Clawback reduction and rationalization of healthcare expenditure									
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16816_Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure	Target	Clawback decrease 300 000 000 - step 3		Decrease in the amount of clawback compared with the 2020 levels (EUR million)	250	300	Q2	2025	Enforce previously adopted efficiency enhancing measures to achieve a reduction of the 2024 pharmaceutical clawback, both for outpatient and inpatient pharmaceuticals by EUR 300 000 000 compared with the 2020 levels, supporting the resilience of the health care system. To the extent that this is not achieved, the difference between the targeted reduction and the actual reduction for each year shall not be clawed back from the pharmaceutical industry and the relevant amount shall be borne by the state budget up to EUR 300 000 000.
10 - 3.3. Improve resilience, accessibility and sustainability of	Target	Clawback decrease 400 000 000 - step 4		Decrease in the amount of clawback compared with the	300	400	Q2	2026	Enforce previously adopted efficiency enhancing measures to achieve a reduction of the 2025 pharmaceutical clawback, both for outpatient and inpatient pharmaceuticals, by EUR 400 000 000 compared with the 2020 levels, supporting the resilience of the health care system. To the extent

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healthcare - 16816_Reforms and acceleration of investments in the Healthcare Sector - Clawback reduction and rationalization of healthcare expenditure				2020 levels (EUR million)					that this is not achieved, the difference between the targeted reduction and the actual reduction for each year shall not be clawed back from the pharmaceutical industry and the relevant amount shall be borne by the state budget up to EUR 400 000 000.
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Key reform 8: Online cash registers & POS

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
12 - 4.1. Making taxes more growth friendly and improving tax	Milestone	Independent Authority for Public Revenue (IAPR): Online cash registers	Entry into force of the law				Q1	2022	Entry into force of an Independent Authority for Public Revenue Governor's decision for technical requirements, (based on article 12, Law 4308/2014) and a Joint Ministerial Decision for electronic data transmission to the Independent Authority for Public Revenue

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administrati on and tax collection - 16614_Onlin e cash registers & POS (reform)		& Point-of- Sale (POS) – Entry into force of the legal framework							(based on article 15, Law 4174/2013), which shall set out the key features necessary for the interconnection of online cash registers and Point-of-Sale (POS) systems to the Independent Authority for Public Revenue, including revisiting sanctions for cash registers (article 54, Law 4174/2013).
12 - 4.1. Making taxes more growth friendly and improving tax administrati on and tax collection - 16614_Onlin e cash registers & POS (reform)	Target	Independent Authority for Public Revenue: Online cash registers & Point-of-Sale (POS) – rollout and interconnectio n		Number of businesses	0	500 00 0	Q2	2024	Rollout of the platform - all businesses under the legal framework have interconnected their online cash registers with Point-of-Sale systems to the Independent Authority for Public Revenue. A report by the Independent Authority for Public Revenue attesting the completion of the reform and indicating the total number of businesses that have interconnected their online cash registers with Point-of-Sale systems to the Independent Authority for Public Revenue. The eligible cash registers shall be at least 500.000.

Key reform 9: Reforming Public Administration

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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			(for milestones)	Unit of measure	Baseline	Goal	Quarter	Year	
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16972_Reforming Public Administration	Milestone	Public administration – launch of performance-pay system	Entry into force of primary legislation setting up a pilot rewarding system.				Q2	2022	Entry into force of primary legislation for the launch of a performance-pay system for a set number of pilot entities and up to 6 000 civil servants that shall feed into the wider reform introducing a goal-setting management system (see Milestone Q4 2023). The pilot shall cover civil servants involved in the implementation of the Recovery and Resilience Plan. Key features of the system shall be consistent with the unified wage grid (Law 4354/2015).
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public	Milestone	Public administration – legislative framework to clarify mandates	Entry into force of legal provisions modifying the legislative framework				Q3	2022	Entry into force of a revised primary and secondary legislation to establish a multilevel governance allocation system aiming to clarify responsibilities between all public administration levels and address overlaps. The revised legal framework shall set out the responsibility areas for each entity relating to planning and implementation, including on

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investments, improving the public procurement framework, capacity building measures and fighting corruption - 16972_Reforming Public Administration			of the general government entities at central, regional and local level.						functions such as resource assurance and monitoring and evaluation responsibilities.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16972_Reforming Public Administration	Milestone	Public administration – new rewarding system	Entry into force of the primary legislation establishing the rewarding system.				Q4	2023	Entry into force of primary legislation introducing a goal-setting management system aiming to reward public organisations equitably and consistently following the achievement of pre-set objectives. Key features of the system shall be consistent with the unified wage grid (Law 4354/2015).

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13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16972_Reforming Public Administration	Target	Public administration – completion of training for civil servants		Number of civil servants who completed the training programmes.		250 000	Q4	2025	Completion of training programmes for the upskilling and reskilling of at least 250 000 civil servants on the basis of the needs assessment carried out.
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Key reform 10: Actions for the simplification of the business environment and its upgrading in quality and safety - Ease of doing business

Related Measure	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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(Reform or Investment)				Unit of measure	Baseline	Goal	Quarter	Year	
18 - 4.7. Improve competitiveness and promote private investments and exports - 16543_Actions for the simplification of the business environment and its upgrading in quality and safety	Milestone	Establishment of the quality policy and new regulatory framework for Quality infrastructure	Adopt a national strategy on quality infrastructure in Greece), and adopt necessary enabling regulation on standardization, metrology, accreditation and conformity assessment through necessary legislative acts (provide Official Journal reference); and adopt legislative amendments to law 3325/2005 (Part B concerning the establishment, extension and modernisation of manufacturing activities in the Attica Region				Q2	2023	<p>a) Develop a modern regulatory, organizational and operational framework for Quality Infrastructure in Greece, in line with Regulation 765/2008 concerning accreditation of conformity assessment bodies; and (b) entry into force of legislation to reform the regulatory framework concerning the installation of manufacturing activities in Attica with a view to eliminating excessively high restrictions that are non-proportional to policy objectives.</p> <p>The scope of (b) shall cover the establishment of new industrial units and the modernisation of existing ones operating in Attica, as well as relocation and extension of existing installations in Attica.</p>
18 - 4.7. Improve	Milestone	Improvement of business	-For actions that require legislation:				Q2	2024	Complete the reform to reduce complexity of procedures, time and cost in four sub-areas:

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competitiveness and promote private investments and exports - 16591_Ease of doing business		environment – ease doing business	Publication of legislation in Official Journal (Official Journal reference) -For interoperability functions, platforms and registries: Operationalisation of systems (attested by a report) -Delivery of equipment for equipment (attested by report and proof of purchase) -Completion of campaigns and issuance of guidelines (attested by issued guidelines/circulars)						getting credit, obtaining an electricity connection, registering property, and getting a construction permit Specifically, the reform will include the following subprojects and actions: 1. Getting credit - Establish modern and reliable regulatory framework on securities in movable assets - Establish a register of secure transactions 2. Getting Construction Permit - Achieve operational interoperability between e-adeies system for construction permits with other public systems - Implement outreach campaigns with private sector stakeholders - Equipping and training of staff - Guidelines made available online - Fee schedule available online - Instate digital inspection functions for the Fire Department 3. Getting Electricity - Simplify/reduce the requirements for application to HEDNO and unify the system for declaring square meters to Municipalities 4. Registering property - Create e-platform enabling purchasers to complete all requirements for transferring property online
18 - 4.7. Improve competitiveness	Milestone	Improvement of business environment –	Publication of legislation in Official Journal				Q4	2025	Entry into force of legislation to reform and take necessary actions to further improve the

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and promote private investments and exports - 16543_Actions for the simplification of the business environment and its upgrading in quality and safety		licensing simplification and market surveillance	(Official Journal reference)						<p>regulatory framework for the licensing and effective surveillance of businesses:</p> <ul style="list-style-type: none"> -undertake ex-post impact assessment of the licensing reform that has taken place by Q1 2024, and implement policy recommendations, -review and simplify licensing processes for new economic activities that shall be defined under law 4442/16, by reducing requirements and certificates, eliminating non-value adding steps of the process, reducing application processing times, and restricting ex ante control to only high-risk activities, in line with the principles of Laws 4442/2016 and 4512/2018, - codification of laws 3325/2005, 3982/2011, 4302/2014 and 4442/2016, - develop a market surveillance strategy in line with Regulation 1020/2019, and - effective implementation of the new surveillance system of economic activities under 4512/18 legislation, through adoption of relevant legislative act and setting into force a system for the evaluation of inspecting authorities, -implement and deploy IT tools to facilitate market surveillance functions processes
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Groups

Group 1: Power Up

The measures included within this group are:

- Support of the installation of storage systems to enhance RES penetration (ID: 16926)
- Revitalization actions of the most affected territories (Just transition territories) (ID: 16871)
- HEDNO network upgrades aiming at enhancing resilience and protecting the environment (ID: 16901)
- HEDNO overhead network upgrading in forest areas (ID:16900)
- Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection (ID: 16899)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
1 - 1.1. Power up - 16871_Revitalization actions of the most affected territories (Just transition territories)	Milestone	Land rehabilitation — framework law	Entry into force				Q1	2022	Approval and entry into force of Framework Program Contract Law determining the geographical areas to be transferred from the Public Power Corporation to the State, the content of the projects' studies, the division of responsibilities between all involved parties, the governance arrangements, the implementation schedule and the budget.
1 - 1.1. Power up - 16871_Revitalization	Milestone	Land rehabilitation	Ministry of Environment				Q2	2023	1) Approval of Special Urban Plans by all municipalities. The Plans shall define permitted

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n actions of the most affected territories (Just transition territories)		— urban plans	to certify approval of all Special Urban Plans; Notification of award of contracts						land uses, the general building conditions and restrictions and any other required measure, term or restriction. 2) Notification of award of contracts for Land rehabilitation in Western Macedonia and Megalopolis.
1 - 1.1. Power up - 16926_Support of the installation of storage systems to enhance RES penetration	Milestone	Storage — contracts	Notification of award of all contracts				Q2	2023	Notification of award of all contracts for selected projects (i.e. besides the long-duration Amfilochia Pumped Hydro Storage that is selected through an individual process), for a total of up to 700MW of capacity (and minimum capacity of 500MW).
1 - 1.1. Power up - 16901_HEDNO network upgrades aiming at enhancing resilience and protecting the environment	Milestone	HEDNO — contracts 1	Notification of award of all contracts				Q4	2023	Notification of award of all contracts related to Hellenic Electricity Distribution Network Operator (HEDNO) projects on upgrades for resilience and environment), to enable further penetration of renewable energy and improve the reliability and resilience of the network, while protecting the environment.
1 - 1.1. Power up - 16900_HEDNO overhead network upgrading in forest areas	Milestone	HEDNO — contracts 2	Notification of award of all contracts				Q4	2023	Notification of award of all contracts related to HEDNO projects on overhead networks in forest areas, to enable further penetration of renewable energy and improve the reliability and resilience of the network, while protecting the environment.

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1 - 1.1. Power up - 16899_Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection	Milestone	HEDNO — contracts 3	Notification of award of all contracts				Q4	2023	Notification of award of all contracts related to HEDNO projects on capacity increases of High Voltage/Medium Voltage substations, to enable further penetration of renewable energy and improve the reliability and resilience of the network, while protecting the environment.
1 - 1.1. Power up - 16871_Revitalization actions of the most affected territories (Just transition territories)	Target	Land rehabilitation — completion		Land rehabilitation (ha) completed and certified by Ministry of Environment	0	15 000	Q4	2025	Completion of land rehabilitation projects (15 000 ha) in Western Macedonia & Megalopolis
1 - 1.1. Power up - 16926_Support of the installation of storage systems to enhance RES penetration	Milestone	Energy Storage — completion	IPTO to certify entry into operation of energy storage projects for up to 1 380 MW of storage installed				Q4	2025	Entry into operation of all energy storage projects for up to 1 380 MW (including Amfilochia), as certified by IPTO.
1 - 1.1. Power up - 16901_HEDNO network upgrades aiming at enhancing resilience and	Milestone	HEDNO — completion 1	HEDNO to provide evidence of project completion for all				Q4	2025	Interventions related to network upgrades for resilience and environment completed and in operation.

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protecting the environment			interventions related to upgrades for resilience and environment, and entry into operation certificates						
1 - 1.1. Power up - 16900_HEDNO overhead network upgrading in forest areas	Milestone	HEDNO — completion 2	HEDNO to provide evidence of project completion for all interventions related to overhead network upgrades in forest areas, and entry into operation certificates				Q4	2025	Interventions related to overhead network upgrades in forest areas completed and in operation.
1 - 1.1. Power up - 16899_Installed capacity increase in Hellenic Electricity Distribution Network Operator (HEDNO) HV/MV substations for new RES connection	Milestone	HEDNO — completion 3	HEDNO to provide evidence of project completion for all interventions related to capacity				Q4	2025	Interventions related to capacity increase of HV/MV substations completed and in operation.

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			increase of HV/MV substations and entry into operation certificates						
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Group 2: Energy renovation of enterprises and public buildings

The measures included within this group are:

- Energy and entrepreneurship (ID: 16874)
- Energy upgrade of public sector buildings and energy infrastructure of public entities (ID: 16876)
- Energy poverty action plan (ID: 16920)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
2 - 1.2. Renovate - 16920_Energy poverty action plan	Milestone	Energy poverty – adoption of action plan	Entry into force of a Ministerial Decision by the Ministry of				Q3	2021	Entry into force of a Ministerial Decision by the Ministry of Environment and Energy adopting the Energy Poverty Action Plan, with three categories of policy measures in the Plan: - Awareness and information measures;

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			Environment and Energy.						<ul style="list-style-type: none"> - Measures for the short-term protection of the energy poor households, including (1) the definition of households experiencing energy poverty, through specific quantitative criteria, and (2) a specific process to monitor and evaluate the evolution of energy poverty, in line with the mechanism proposed within the Action Plan and in accordance with relevant EU legislation; and - Financing measures: establishment of funding mechanisms for the energy upgrade of residential buildings of energy-vulnerable households and other social groups with specific electricity consumption patterns. These financial measures shall address the energy poverty issues in Greece, as described under the National Energy and Climate Plan (NECP).
2 - 1.2. Renovate - 16874_Energy and entrepreneurship	Milestone	Energy efficiency private sector – applications approved	Notification of awards for approved applications by the Ministry of Environment and Energy of selected interventions at private sector entities.				Q2	2023	Approval by the Ministry of Environment and Energy of applications of 9 700 private sector entities ensuring that the greenhouse gas (GHG) emissions is reduced, on average, by at least 30% compared to the private sector entities' existing situation (as indicated through the energy audits performed prior to the interventions). Interventions shall be carried out in compliance with selection/eligibility criteria and shall ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion

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									list and the requirement of compliance with the relevant EU and national environmental legislation.
2 - 1.2. Renovate - 16876_Energy upgrade of public sector buildings	Milestone	Energy efficiency public buildings – applications approved	Notification of awards for approved applications by the Ministry of Environment and Energy of selected interventions at public sector buildings.				Q2	2023	<p>Approval by the Ministry of Environment and Energy of applications for 210 public sector buildings ensuring that the GHG emissions of these respective buildings is reduced by, on average, at least 30% compared to their existing situation (as indicated through the energy audits performed prior to the interventions).</p> <p>For the Energy upgrade of public sector buildings programme, the legal framework to enable Energy Performance Contracts has been established.</p>
2 - 1.2. Renovate - 16876_Energy upgrade of public sector buildings	Target	Energy efficiency public buildings – completed		Number of buildings with completed interventions	0	210	Q4	2025	Interventions to improve energy efficiency completed for public sector buildings (210 buildings) with GHG emissions reduction, on average, of at least 30%, as indicated through the energy audits performed prior to the interventions.
2 - 1.2. Renovate - 16874_Energy and entrepreneurship	Target	Energy efficiency private		Number of private sector	0	9 700	Q4	2025	Interventions to improve energy efficiency completed for selected private sector entities (9 700 private sector entities) with GHG

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		sector – complete d #2		entities with complete d interventi ons t					emissions reduction, on average, of at least 30%.
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Group 3: Interventions in residential areas and in the building stock

The measures included within this group are:

- Interventions in residential areas and in the building stock (ID: 16873)
- Infrastructure development and buildings' restoration in former royal estate in Tatoi (ID: 16875)
- Olympic Athletic Center of Athens (ID: 16932)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
2 - 1.2. Renovate - 16932_Olympic Athletic Center of Athens	Milestone	OAKA – Contract award	Notification of the award of the contract(s)				Q1	2023	Notification of the award of the contract(s) for the appointment of private sector partner(s) to carry out, by end-2023, the construction and renovation works that shall enhance energy efficiency for (i) Central Stadium; (ii) Mechanical

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									and Electrical works; and (iii) outdoor areas and start of works.
2 - 1.2. Renovate - 16873_ Interventions in residential areas and in the building stock	Milestone	Urban interventions - contract awards	Notification of the award of contract(s)				Q2	2023	Notification of the award of the contract(s) for the appointment of private sector partner(s) to carry out, by 30 September 2025, the works for the (i) improvement of urban environment and public space in selected municipalities following an open call aiming to strengthen climate resilience; (ii) urban regeneration of the ex-industrial area of Votanikos / Elaionas, including public re-use of the Navy military camp, renovation of the Agricultural University of Athens (AUA) campus; (iii) Athens Riviera: cycling infrastructure; and (iv) other strategic interventions, which shall be selected, following an open call to municipalities covering: (1) energy efficiency and demonstration projects in SMEs or large enterprises and achieving, at least, a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786, or, on average, at least a 30% reduction of direct and indirect GHG emissions compared to the ex-ante emissions; (2) construction of new energy efficient buildings and with a Primary Energy Demand (PED) that is, at least, 20% lower than the NZEB requirement (nearly zero-energy building, national directives); and (3) nature and biodiversity protection, natural heritage and resources, green and blue infrastructure.

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2 - 1.2. Renovate - 16932_Olympic Athletic Center of Athens	Milestone	OAKA – completion of works	Completion of all works for these subprojects confirmed by signing of completion form by construction supervisor.				Q2	2024	Completion of all works to achieve energy efficiencies and improve carbon footprint, including (i) the maintenance and repair of the steel structures of the Stadium roof (canopy) (Subproject one); (ii) machinery for the basketball and the aquatic facilities to operate independently and enable energy savings (Subproject two); (iii) Velodrome (Subproject three); (iv) Tennis Complex (Subproject five); and (v) Outdoor areas (Subproject six) including the Agora and Wall of Nations steel structures.
2 - 1.2. Renovate - 16873_ - Interventions in residential areas and in the building stock	Milestone	Urban interventions – completion of all works	Completion of works and services confirmed by signing of completion form by construction supervisor.				Q4	2025	Complete all works under (i) Interventions aiming to improve urban environment and public space; (ii) Urban regeneration of the ex-industrial area of Votanikos / Elaionas; (iii) Athens Riviera: cycling infrastructure; and (iv) Other strategic interventions.

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2 - 1.2. Renovate - 16875_Infrastructure development and buildings' restoration in former royal estate in Tatoi	Milestone	Tatoi – completion of all works	Completion of works and services confirmed by signing of completion form by construction supervisor				Q4	2025	Complete all works under the 'Infrastructure development and buildings' restoration in former royal estate in Tatoi' programme, including: (i) infrastructure works; (ii) restoration of the palace to be reused as a Museum; (iii) exhibition of the palace; (iv) restoration of the agricultural building and reuse as a museum; (v) museological study for the new agricultural building; (vi) restoration of palace gardens; (vii) conservation and restoration of artefacts; (viii) recording, documentation and registration of artefacts; and (ix) digitization of found paper archival material.
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Group 4: E-mobility

The measures included within this group are:

- Produc- E Green (ID: 16831)
- Electromobility (ID: 16924)

The milestones and targets set for this group are described in the following table:

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Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
3 – 1.3. Recharge and refuel - 16924_ Electromobility	Milestone	Public transport – Entry into force of market regulation for Public Service Obligation (buses)	Entry into force of revised legal framework.				Q4	2021	Strengthen market regulation through entry into force of a revised legislative framework for public urban and regional passenger transportation services (in compliance with EU 1370/2007). The revised framework shall: (a) to ensure the continuous supply of public urban and regional road passenger transport (scheduled and of fixed route); (b) to oversee the design, organization and operation of the associated transport networks; (c) to ensure high quality public road transport at the lowest cost possible; (d) to regulate the process of granting exclusive rights to operate public regional and urban routes (scheduled and of fixed route); and (e) to regulate the level of compensation for the provision of the aforementioned services. Furthermore, the law shall establish the overarching criteria for future passenger transport service procurement. Corresponding regions and regional units shall establish detailed region-specific criteria that shall properly account for the region-specific

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									transportation needs and shall fine-tune the procurement process accordingly.
3 – 1.3. Recharge and refuel - 16924_ Electromobility	Milestone	Public transport – implementation of new market regulation for Public Service Obligation (buses)	Entry into force of secondary legislation related to revised legal framework.				Q3	2022	Entry into force of secondary legislation indicated in the revised legal framework to strengthen market regulation for public urban and regional passenger transportation services.
3 - 1.3. Recharge and refuel - 16831_Product- E Green	Milestone	Industrial Units– launch of programme	Entry into force of Ministerial Decision(s).				Q4	2022	<p>Launch of programme for selection of industrial units and entry into force of relevant Ministerial Decision(s) by the Ministry of Environment and Energy setting out:</p> <ul style="list-style-type: none"> - Selection process to target low carbon economy and resilience to climate change; - Implementation mechanism defined; - Certification mechanism(s) to validate that climate change objective is met (incl. details of possible corrective actions, if needed; and - Timeline. <p>Selection/eligibility criteria set shall ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of</p>

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									compliance with the relevant EU and national environmental legislation.
3 - 1.3. Recharge and refuel - 16924_ Electromobility	Milestone	Electric vehicles charging points – launch of programmes	Entry into force of Ministerial Decision(s).				Q4	2022	Launch of programme for selection of more than 8 000 publicly accessible charge points for electric vehicles at strategic urban and suburban locations within cities and at points of interest (“Electromobility”) and entry into force of relevant Ministerial Decision(s) by the Ministry of Environment and Energy setting out: - Selection process; - Implementation mechanism defined; - Certification mechanism(s) to validate that climate change objective is met (incl. details of possible corrective actions, if needed; and - Timeline.
3 – 1.3. Recharge and refuel - 16924_ Electromobility	Milestone	Sustainable transport – feasibility study	Entry into force of a Joint Ministerial Decision adopting the Feasibility Study for an eMobility Agency.				Q4	2022	Entry into force of a Joint Ministerial Decision adopting a feasibility study for the establishment of an electro-mobility agency that shall ensure appropriate planning and coordination between transport and energy infrastructures, regional and local governments, and promote linkages between the e-Supply chain -including battery and RES producers - with the research and innovation base.

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3 - 1.3. Recharge and refuel - 16924_ Electromobility	Milestone	Charging points for electric vehicles – installation locations confirmed	Notification of award by the Ministry of Environment and Energy of approved application				Q4	2023	Notification of award by the Ministry of Environment and Energy of approved applications submitted for installation of 8 656 publicly accessible charge points for electric vehicles ("Electromobility")
3 - 1.3. Recharge and refuel - 16831_Produc- E Green	Milestone	Industrial Units– companies selected	Notification of award by Ministry of Environment and Energy of approved applications				Q4	2023	Notification of award by the Ministry of Environment and Energy of approved applications submitted for more than 10 industrial units ("Produce E-Green"). Applications shall be selected in compliance with selection/eligibility criteria and shall ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.
3 - 1.3. Recharge and refuel - 16831_Produc- E Green	Milestone	Carbon Capture and Storage (CCS) – storage permission	Issuance of the storage permit and establishment of a reporting system.				Q2	2024	Issuance of the storage permit by the responsible Ministry for the Carbon Capture and Storage (CCS) to confirmed operator. Submission of a complete application to the Ministry of Environment and Energy by the applicant, which would include all relevant studies as well as an Environmental Impact Assessment Study. Establishment of a reporting system for annual reporting on CO ₂ stored and confirmation of no oil extracted, other than that limited to the indispensable needs of managing pressure

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									and ensuring safety of the storage sites, and that any process CO ₂ associated with the indispensable extraction will be separated and fed back for permanent storage. Intervention shall be carried out in compliance with selection/eligibility criteria included in the Do No Significant Harm Technical Guidance (2021/C58/01), with a particular reference to comply with the requirement that there shall be no technological applications, neither any type of facilities and equipment engineered towards Enhanced Oil Recovery (EOR) application and increased oil production. Care will be taken that any possible extraction of oil or gas shall be limited to the indispensable needs of managing pressure and ensuring safety of the storage sites and that any such extraction shall be done only if indispensable to ensure the safe storage of CO ₂ . The CO ₂ with any oil or gas that may be extracted shall be separated and fed back for permanent storage.
3 - 1.3. Recharge and refuel - 16924_ Electromobility	Target	Busses and taxis – replacement with electric ones		Number of old taxis and busses scrapped by an Authorised Treatment Facility and	0	2 200	Q4	2024	Completion of the 'green transport' subsidy support scheme through a) the replacement of 2 000 old taxis with 2 000 new battery electric vehicles (BEV) and b) replacing 220 old busses with 220 new electric busses (163 electric busses shall be based in Athens and 57 electric busses shall be in Thessaloniki), where scrappage of older

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				replaced with battery electric vehicles or electric busses					vehicles/busses will be carried out by an Authorised Treatment Facility (ATF) according to the end-of-life vehicles directive (2000/53/EC)..
3 - 1.3. Recharge and refuel - 16831_Product - E Green	Milestone	CCS – operation certificate issued	Issuance of a certificate of operation for the Carbon Capture and Storage.				Q4	2025	Completion of the works for the Carbon Capture and Storage according to the specifications and following successful testing
3 - 1.3. Recharge and refuel – 16831_Product - E Green	Milestone	Industrial units – operating	Completion certified by report of the Ministry of Environment and Energy on fully operational industrial units				Q4	2025	Selected industrial units that have received support shall be in full operation with dedicated Research and Development (R&D) department for innovative products/services in the area of sustainable mobility (such as recycling of electric car batteries by reusing raw materials such as lithium and cobalt, the designing of electric vehicles and regular or high power charge points).
3 - 1.3. Recharge and refuel – 16831_Product - E Green 16924_Electromobility	Target	Charging points for electric vehicles – installations completed		Number of charging points for electric vehicles installed as confirmed by the Ministry of		8 000	Q4	2025	Completion of the installation of at least 8 000 publicly accessible charge points for electric vehicles at strategic urban and suburban locations within cities and at points of interest and of the operational units selected.

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				Environment and Energy					
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Group 5: National Reforestation Plan and Biodiversity Protection

The measures included within this group are:

- National Reforestation Plan and Parnitha flagship investment (ID: 16849)
- Biodiversity protection as a driver for sustainable growth (ID: 16851)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16849_National Reforestation Plan and Parnitha flagship investment	Milestone	Reforestation — contracts	Notification of award of all contracts				Q2	2023	Notification of award of all contracts for both subprojects on reforestation: 1. Restoration of 16 500 ha of degraded forest ecosystems in Greece, using mostly native species; and 2. Restoration of the environment of Mount Parnitha.

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4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16849_National Reforestation Plan and Parnitha flagship investment	Milestone	Reforestation — Completion of subproject 2 (Mt Parnitha)	Certification from Ministry of Environment of completion of subproject two				Q2	2025	Completion of the Mount Parnitha project (Reforestation subproject two).
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16849_National Reforestation Plan and Parnitha flagship investment	Milestone	Reforestation — Completion of subproject 1 (Restoration of 16 500 ha)	Certification from Ministry of Environment of reforestation of 16 500 ha				Q4	2025	Completion of all works for the restoration of 16 500 ha of degraded forest ecosystems in Greece. (Reforestation - subproject one).
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16851_Biodiversity protection as a driver for sustainable growth	Milestone	Biodiversity — Completion	Certification from Ministry of Environment of completion of all subprojects				Q4	2025	Completion of all biodiversity protection subprojects, including the establishment of national network of paths and hiking trails, of restoration of terraces related to biodiversity protection, of the establishment of uniform monitoring protocols and the respective operational system, and of the horizontal patrolling system plan for all protected areas of Greece.

Group 6: Wastewater & water infrastructure, water savings

The measures included within this group are:

- Urban Wastewater and Sludge Management Infrastructures (ID: 16846)
- Drinking Water Supply and Savings infrastructures (ID: 16850)
- Flood protection project (ID: 16882)
- Water supply projects (ID: 16898)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16882_Flood mitigation projects	Milestone	Notification of award of flood protection contracts	Notification of award for all contracts				Q4	2023	Notification of award of all flood mitigation works contracts in the 4 regions: Lasithi Crete, Amvrakia-Amfilohia region, Loutraki region and Oreokastro area. For each sub-investment, full compliance with the requirements of the Water Framework Directive shall be ensured and demonstrated before the commencement of any construction works.

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4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16850_Drinking Water Supply and Saving Infrastructures	Milestone	Issuance of a call of interest for water saving actions	Call of interest issued by the Ministry of Environment				Q2	2023	Issuance of a call of interest for water saving actions programme, to include requirement of system to be constructed to have an average energy consumption of ≤ 0.5 kWh or an Infrastructure Leakage Index (ILI) of ≤ 1.5 .
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16898_Water Supply Projects	Milestone	Notification of award of contract for water supply projects	Notification of award of all contracts				Q4	2023	Notification of contract award for all water supply infrastructure projects: 1. Water supply systems for Preveza - Arta - Lefkada prefectures 2. Water supply systems in the island of Lesbos 3. Water supply of Corfu island For each sub-investment, full compliance with the requirements of the Water Framework Directive shall be ensured and demonstrated before the commencement of any construction works.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16846_New infrastructure -	Milestone	Notification of award of contract for wastewater projects	Notification of award of all contracts				Q4	2023	Notification of contract award for wastewater and sludge management projects: 1. Sewage network infrastructure and Wastewater Treatment Plants (WWTP). 2. Upgrading, expansion and modernization of Wastewater Treatment Plants and reuse of treated water.

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Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment									3. Implementation of sludge management infrastructure from Water Waste Treatment Plants. All contracts to include requirement for constructed front-to-end waste water system to have net zero energy use.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16882_Flood mitigation projects	Milestone	Completion of 60% of flood mitigation works	Report by independent engineer certified by the Ministry of Infrastructure				Q4	2024	Completion of 60% of the value of the works for the flood mitigation projects in the 4 regions: Lasithi Crete, Amvrakia-Amfilohia region, Loutraki region and Oreokastro area.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16898_Water Supply Projects	Milestone	Completion of 60% of water supply projects	Report by independent engineer certified by the Ministry of Infrastructure				Q4	2024	Completion of 60% of the value of the works for the three water supply sub-projects: 1. Water supply systems for Preveza - Arta - Lefkada prefectures; 2. Water supply systems in the island of Lesbos; and 3. Water supply of Corfu island.

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4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16850_Drinking Water Supply and Saving Infrastructures	Milestone	Completion of 50% of water saving actions and water supply	Report by independent engineer certified by the Ministry of Environment and Energy				Q4	2024	Completion of the water saving actions for 50% of the households and completion of 50% for the value of the works for the water supply projects.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16846_New infrastructure - Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment	Milestone	Completion of 50% of wastewater works	Completion report by independent engineer certified by the Ministry of Environment and Energy				Q4	2024	Completion of 50% of the value of the works for the urban wastewater and sludge management infrastructures.
4 - 1.4. Sustainable use of resources, climate	Milestone	Completion of Urban Wastewater and Sludge	Completion report by independent engineer				Q4	2025	Completion of all urban wastewater and sludge management projects: 1. Sewage network infrastructure and Wastewater Treatment Plants (WWTP);

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resilience and environmental protection - 16846_New infrastructure - Urban Wastewater and Sludge Management Infrastructures from Wastewater Treatment		Management Infrastructures	certified by the Ministry of Environment and Energy						2. Upgrading, expansion and modernization of Wastewater Treatment Plants and reuse of treated water; and 3. Implementation of sludge management infrastructure from Water Waste Treatment Plants.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16850_Drinking Water Supply and Saving Infrastructures	Milestone	Completion of Drinking Water Supply and Saving Infrastructures	Completion report by independent engineer certified by the Ministry of Environment and Energy				Q4	2025	Completion of all projects, including: 1: Water supply infrastructures in seven areas 2: Three desalination Plants 3 : Telemetry - Remote Control Projects for the detection of leaks in water supply networks 4: Procurement of Digital water meters 5: Water saving actions at at least 45 000 households and 10 000 enterprises
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16882_Flood	Milestone	Completion of Flood mitigation projects	Completion report by independent engineer certified by the Ministry of Environment and Energy				Q4	2025	Completion of flood mitigation projects in the four regions: Lasithi Crete, Amvrakia-Amfilohia region, Loutraki region and Oreokastro area.

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mitigation projects									
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16898_Water Supply Projects	Milestone	Completion of water supply projects	Completion report by independent engineer certified by the Ministry of Environment and Energy				Q4	2025	Completion of three water supply sub-projects in a) Preveza - Arta – Lefkada, b) Corfu and c) Lesbos: water intake and head works, pipelines, storage and pumping stations completed and in operation.

Group 7: Civil Protection Projects

The measures included within this group are:

- Aerial means for crisis management (ID: 16911)
- Development of an innovative monitoring and management system (ID: 16910)
- Establishment of a strategic National Disaster Risk Management (ID: 16909)
- Forest firefighting, prevention and response equipment (ID: 16912)
- Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes (ID: 16283)

The milestones and targets set for this group are described in the following table:

Related Measure	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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(Reform or Investment)			(for milestones)	Unit of measure	Baseline	Goal	Quarter	Year	
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16283_Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes	Milestone	Tender for 13 Regional Centres	Publication of tender notice				Q3	2021	Publication of tender notice for the construction of 13 Regional Civil protection centres.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16910_Monitoring and Management System	Milestone	Contract for GPS	Notification of award of contracts				Q4	2022	Notification of contract award for the GPS Monitoring System and Early warning system.

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4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16911_Aerial means for crisis management	Milestone	Purchase of two Sikorsky helicopters	Notification of award of contracts				Q4	2023	Notification of award of the contract for the purchase of two Sikorsky helicopters for civil protection and firefighting needs.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16283_Implementation of Regional Civil Protection Centers (PEKEPP) through PPP schemes	Target	Completion of 13 buildings		Number of regional civil protection centres put into operation since the completion of construction	0	13	Q4	2024	Completion of construction and entry into operation of 13 Regional Civil protection centres.
4 - 1.4. Sustainable	Milestone	Completion of	Completion				Q4	2025	Completion of the following actions:

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use of resources, climate resilience and environmental protection - 16910_Monitoring and Management System		Monitoring and management system for civil protection	certified by Report of Ministry of Interior						<ol style="list-style-type: none"> 1. GPS Monitoring System used by the Hellenic Fire Service, as well as vehicles of Regional Civil Protection Operations Centre (project machinery, etc.). Expansion of the “engage” information system of the Hellenic Fire Service; 2. Early Warning System; 3. Fire detection and fire extinguishing systems; 4. Emergency communication stations and provision of climatic data of areas of interest; and 5. Wireless communication network.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16911_Aerial means for crisis management	Milestone	Completion of project of aerial means for crisis management	Completion certified by a Report of Ministry of Interior				Q4	2025	<p>Completion of the following actions:</p> <ol style="list-style-type: none"> 1. Delivery of 2 medium – size utility helicopters for medical use; 2. Delivery of unmanned Aerial Vehicles – UAVs (Drones) for air surveillance; 3. Upgrade - modernization of 7 Canadair CL415 ; 4. S-64 Skycrane heavy lift helicopters; 5. Delivery of 1 helicopter for the transportation of GSCP’s Incident Management Team; 6. Delivery of 11 amphibious Air tractor type firefighting aircraft for the island complexes; and 7. Upgrade - modernization of two (2) Super Pumas.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16912_Forest firefighting,	Milestone	Completion of forest fighting equipment	Completion certified by report of Ministry of Interior				Q4	2025	<p>Completion of the following actions:</p> <ol style="list-style-type: none"> 1. Delivery of fire engines and other response vehicles; 2. Development of prevention projects. Delivery of construction equipment; 3. Delivery of Vehicles for GSCP, Regional/Local Civil Protection Operations Centers and Volunteering Organizations; and 4. Delivery of collapsible transportable bridges.

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prevention and response equipment									
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16909_Infrast ructure - Establishment of a strategic National Disaster Risk Management	Milesto ne	Completi on of National Disaster Risk Managem ent	Completi on certified by report of Ministry of Interior				Q4	2025	Completion of the following actions: <ol style="list-style-type: none"> 1. Establishment of a strategic National Disaster Risk Management centre in Atlantas and Faros buildings. 1. Delivery of telecommunication equipment for the 13 Regional Civil Protection Operations Centres. 2. Construction of new building facilities and office equipment for the Civil Protection and Fire Corps Educational Institutions. 3. Construction of an air-surveillance control and management centre. 4. Delivery of mobile administration and on-site control centres in the 13 Regions.

Group 8: Connectivity

The measures included within this group are:

- Transition to 5G technology, facilitating the development of innovative remote services. (ID: 16844)
- Switch to fast broadband connections – Transition to 100/200 Mbps (UltraFast) broadband connections and strengthening of Superfast Broadband dem (ID: 16857)
- Fiber optic infrastructure in buildings (ID: 16818)
- 5G Corridors – Develop 5G networks that will provide coverage of all Greek motorways that are part of the Trans-European Transport Networks (ID: 16834)
- Small-satellites (ID: 16855)
- Submarine fiber cables (ID: 16962)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
5 - 2.1. Connect - 16818_Fiber optic infrastructure in buildings	Milestone	Award of contract(s) for the 'Fiber optic infrastructure in buildings' project	Notification of award of contract(s)				Q3	2022	<p>Award of contract(s) following the successful completion of the tender process for the 'Fiber optic infrastructure in buildings' project.</p> <p>The Information Society SA/ Ministry of Digital Governance shall ensure that all the submitted applications are examined to confirm whether the applications properly address the Call's demands. Upon the selection of the appropriate contractor, the Information Society S.A./ Ministry of Digital Governance shall proceed with contract award which shall define the obligations, roles and responsibilities of contracting parties.</p>
5 - 2.1. Connect - 16962_Submarine fiber cables	Milestone	Award of contract(s) for the 'Submarine fibre cables' project	Notification of award of contract(s)				Q2	2023	<p>Award of contract(s) following the successful completion of the tender process for the 'Submarine fibre cables' project.</p> <p>The Information Society SA/ Ministry of Digital Governance shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate contractor, the Information Society S.A./ Ministry of Digital Governance shall proceed with contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>

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5 - 2.1. Connect - 16855_Small-satellites	Milestone	Award of contract(s) for the 'Small Satellites' project	Notification of award of contract(s)				Q2	2023	<p>Award of contract(s) following the successful completion of the tender process for the 'Small Satellites' project.</p> <p>The Information Society SA/ Ministry of Digital Governance shall ensure that all the submitted proposals are examined to confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate contractor, the Information Society S.A./ Ministry of Digital Governance shall proceed with contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>
5 - 2.1. Connect - 16834_5G Corridors – Develop 5G networks that shall provide coverage of all Greek motorways that are part of the Trans-	Milestone	Award of contract(s) for the '5G corridors' project	Notification of award of contract(s)				Q2	2023	<p>Award of contract(s) following the successful completion of the tender process for the '5G corridors' project.</p> <p>The Information Society SA/ Ministry of Digital Governance shall ensure that all the submitted proposals are examined to confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate contractor, the Information Society S.A./ Ministry of Digital Governance shall proceed with contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>

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European Transport Networks									
5 - 2.1. Connect - 16962_Submarine fiber cables	Target	Completion of the 'Submarine fibre cables' project		Km of submarine fibre cables installed	0	1 370	Q4	2025	1 370 km of submarine fibre cables installed to interconnect Greece with Cyprus and connect big islands such as Lesbos, Syros, Crete as well as medium-sized islands (such as Karpathos, Kalymnos, Ikaria and Patmos).
5 - 2.1. Connect - 16818_Fiber optic infrastructure in buildings	Target	Completion of the 'Fiber optic infrastructure in buildings' project		Number of private buildings fully connected with Fiber To The Home (FTTH) fibre optic infrastructure	0	120 000	Q4	2025	120 000 private buildings fully connected with FTTH fibre optic infrastructure.
5 - 2.1. Connect - 16834_5	Target	Completion of the '5G		Km of 5G infrastructure deployed	0	1 918	Q4	2025	Deployment of 1 918 km of 5G infrastructure into all Greek motorways.

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G Corridor s – Develop 5G network s that shall provide coverage of all Greek motorw ays that are part of the Trans- Europea n Transpor t Network s		corridors ' project							
5 - 2.1. Connect - 16855_S mall- satellites	Mile ston e	Completi on of the 'Small satellites ' project	In-Orbit Commissi oning Reports following the Small Satellites launch				Q4	2025	<p>The Pilot Project starts routine operations and the Small Satellites constellation is launched and put in orbit.</p> <p>The project delivery shall be evaluated for its performance (whether small satellites support secure telecommunications services along with earth observation applications in the fields of mapping, shipping, precision agriculture, spatial planning and other sectors of the economy).</p>

Group 9: Initiatives related to enhanced "customer"-oriented and secure digital services making use of interoperable IT systems and open data policies

The measures included within this group are:

- Customer Relationship Management for the General Government (ID: 16810)
- Further Modernisation of Public Administration's One-Stop Shops (ID: 16780)
- New system for Public Procurements (ID: 16736)
- Digital transformation of the Ministry of Foreign Affairs (ID: 16742)
- Digital skills upgrade programs for conscripts (ID: 16826)
- Digital Transformation of the Greek National Tourism Organisation (ID: 16791)
- Cybersecurity strategy and policies for the Public Sector & Establishment of a National Cybersecurity Operations Centre (ID: 16823)
- Interoperability and web services development (ID: 16779)
- Data Classification Studies for Public Sector's Information Systems (ID: 16965)
- Next-Generation Interoperability Centre (KED) (ID: 16964)
- ERegistries (ID: 16824)
- Provision of advanced Security Services in the G-Cloud critical infrastructure (ID: 16823)
- Tourism Registry e-MHTE (ID: 16785)
- Central Document Management System (ID: 16738)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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6 - 2.2. Modernise - 16779_Interoperability and web services development	Milestone	Contract award for interoperability and web services development project	Notification of award of contract				Q4	2022	<p>Award of the contract for interoperability and web services development project.</p> <p>The Ministry/General Secretariat of Information Systems for Public Sector/ Information Society SA shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate contractor, the Ministry shall proceed with a contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>
6 - 2.2. Modernise - 16810_CRM for the General Government	Milestone	Contract award for CRM for the General Government	Notification of award of contract				Q4	2022	<p>Award of the contract for CRM for the General Government. The Ministry/General Secretariat of Information Systems for Public Sector/ Information Society SA shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate external partner, the Ministry shall proceed with a contract award which shall define</p>

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									the obligations, roles and responsibilities of both engagement parties.
6 - 2.2. Modernise - 16780_Further Modernisation of Public Administration's One-Stop Shops	Milestone	Contract award for Further Modernisation of Public Administration's One-Stop Shops	Notification of award of contract				Q4	2022	<p>Award of the contract for the modernisation of Public Administration's One-Stop Shops. The Ministry/General Secretariat of Information Systems for Public Sector/ Information Society SA shall ensure that all the submitted proposals are examined and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate external partner, the Ministry shall proceed with a contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>
6 - 2.2. Modernise - 16736_New system for Public Procurements	Milestone	Contract award for New system for Public Procurements	Notification of award of contract				Q4	2022	<p>Award of the contract for the project new system for Public Procurement. The Ministry/General Secretariat of Information Systems for Public Sector/ Information Society SA shall examine all the submitted proposals and confirm whether the applications properly address the RfP demands.</p>

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									Upon the selection of the appropriate contractor, the responsible body shall proceed with a contract award which shall define the obligations, roles and responsibilities of both engagement parties.
6 - 2.2. Modernise - 16823_Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures	Milestone	Contract award for Cybersecurity strategy	Notification of award of contract				Q4	2022	Award of the contract for the project cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures. Upon the selection of the appropriate external consultant, the Ministry shall proceed with a contract award which shall define the obligations, roles and responsibilities of both engagement parties.
6 - 2.2. Modernise - 16826_Digital skills upgrade programs for conscripts	Milestone	Contract award for Digital skills upgrade programs for conscripts	Notification of award of contract				Q4	2022	Award of the contract for the Digital skills upgrade programs for conscripts. The Ministry shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands. Upon the selection of the appropriate external partner, the Ministry shall proceed with a contract award which shall define

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									the obligations, roles and responsibilities of both engagement parties.
6 - 2.2. Modernise - 16742_Digital transformation of the Ministry of Foreign Affairs	Milestone	Contract award for Digital transformation of the Ministry of Foreign Affairs	Notification of award of contract				Q4	2022	<p>Award of the contract for Digital transformation of the Ministry of Foreign Affairs. The Ministry shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate external partner, the Ministry shall proceed with a contract award which shall define the obligations, roles and responsibilities of both engagement parties.</p>
6 - 2.2. Modernise - 16824_ERegistries	Milestone	Contract award for E-Registries	Notification of award of contract				Q4	2022	<p>Award of the contract for the E-Registries project. The Ministry/General Secretariat of Information Systems for Public Sector/ Information Society SA shall examine all the submitted proposals and confirm whether the applications properly address the RFP demands.</p> <p>Upon the selection of the appropriate external partner, the Ministry shall proceed with a contract award which shall define the obligations, roles and</p>

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									responsibilities of both engagement parties.
6 - 2.2. Modernise - 16779_Interoperability and web services development	Milestone	Completion of the project Interoperability and web services development	Report by the Ministry Digital Governance documenting the completion of project on systems' interoperability and the completion of open data				Q4	2024	<p>Completion of project: Interoperability and web services development.</p> <p>The respective infrastructure and systems shall be evaluated for new functionalities. Acceptance / performance (stress etc.) / regression.</p> <p>Moreover, the evaluation shall include the open data target. (The implementation of the Greek Metadata Register (as defined in the Interoperability Register) and a central Main Registry Service Portal, which shall be a central access point to the main registers of the country).</p>
6 - 2.2. Modernise - 16810_CRM for the General Government	Milestone	Completion of the project CRM for the General Government	Report by the Ministry of Digital Governance documenting the implementation of the integrated system for managing the full lifecycle				Q4	2024	<p>Completion of project: Customer Relationship Management system for the general government, enabling the management of the public administration's interactions with citizens and businesses.</p>

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			of Public Administration's relationship with citizens and businesses						
6 - 2.2. Modernise - 16780_Further Modernisation of Public Administration's One-Stop Shops	Milestone	Completion of the project One-Stop Shops	Final project report by the Ministry of Digital Governance documenting the completion of the further modernisation of Public Administration's One-Stop Shops.				Q4	2024	Completion of the project: Further Modernisation of Public Administration's One-Stop Shops, including the further modernisation of public administration's one-stop shops through acquiring 6 000 PCs/printers/tablets used for the electronic signature process, 200 systems for queue management and smart notification, 1 000 feedback terminals, evaluation platform & mobile application and their use.
6 - 2.2. Modernise - 16965_Data Classification Studies for Public Sector's Information Systems	Milestone	Completion of the project Data Classification Studies	Report by the Ministry of Digital Governance documenting the completion of the project. Data Classification Studies for				Q4	2024	Completion of the project: Data Classification Studies for the public sector Information Systems, delivering the 220 data classification studies.

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			the public sector Information Systems						
6 - 2.2. Modernise - 16823_Cybersecurity strategy and policies for the Public Sector & advanced security services for national critical infrastructures	Milestone	Completion of the project Cybersecurity strategy	Report by the Ministry Digital Governance on the documenting the implementation of the new Cybersecurity Strategy and Policies in Public Administration and projects included there in				Q4	2024	Completion of 'New Cybersecurity Strategy and Policies in Public Administration' project implementing changes in terms of processes and procedures regarding cybersecurity, and establishing and making operational the National Security Operations Centre (SOC) in line to the new Strategy.
6 - 2.2. Modernise - 16738_Central Document Management System	Milestone	Completion of Central Document Management System Project	Final report by the Ministry of Digital Governance documenting the completion of the Central Document				Q2	2025	Completion of the Central Document Management System, including putting in use 130 000 remote digital signatures, supported by applications and a help desk.

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			Management System						
6 - 2.2. Modernise - 16742_Digital transformation of the Ministry of Foreign Affairs	Milestone	Completion of Digital transformation of the Ministry of Foreign Affairs	Report by the Ministry of Foreign Affairs documenting the completion of all sub projects of the 'Digitalisation of the Ministry of Foreign Affairs' project				Q2	2025	Completion of the Digital transformation of the Ministry of Foreign Affairs including (1) Strategic and Operational Planning support system, (2) Digitization of the Diplomatic and Historical Archives, (3) Global Digital Information Centre Platform, and (4) modernization of crypto IT & Telecom security infrastructure.
6 - 2.2. Modernise - 16791_Digital Transformation of the Greek National Tourism Organisation	Milestone	Completion of digitalisation of the Greek National Tourism Organisation	Report by the Greek National Tourism Organization documenting the completion of the 'Digital Transformation of the Greek National Tourism				Q2	2025	Completion of the digital Transformation of the Greek National Tourism Organization including the creation (1) of a digital tourist map, (2) a digital repository of Greece's cultural assets and (3) a new system for tourism information.

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			Organization' project						
6 - 2.2. Modernise - 16964_Next-Generation Interoperability Centre (KED)	Milestone	Completion of Next-Generation Interoperability Centre	Report by the Ministry of Digital Governance documenting the completion of the 'Next Generation Interoperability Centre' project.				Q2	2025	Completion of the Next-Generation Interoperability Centre (KED) including the completion of the feasibility and security study, setting up of the Centre and implementation of relevant web services.
6 - 2.2. Modernise - 16785_Tourism Registry e-MHTE	Milestone	Completion of the digital tourism registry	Final report by the Ministry of Tourism documenting the operationalisation of the 'New e-MHTE' platform				Q2	2025	Completion of the Tourism Registry 'e-MHTE' platform.
6 - 2.2. Modernise - 16826_Digital skills upgrade programs for conscripts	Target			Number of conscripts trained	0	150 000	Q2	2025	Modernization of the 'Digital Skills Upgrade' programme for conscripts, with 150 000 conscripts trained.

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6 - 2.2. Modernise - 16736_New system for Public Procurements	Milestone	Completion of the new system for public procurement	Report by the Ministry of Digital Governance documenting the implementation of the 'new system for public procurement' project				Q4	2025	Completion of the new system for Public Procurements including (1) the upgrade of Operation Systems versions and integration of the new system into current systems, (2) availability of new system functionalities and system reports, (3) finalisation of the redesign of the national electronic public procurement system and the Central Electronic Public Procurement Registry (KIMDIS), (4) availability of interoperability services with gov.gr; and operationalization of (5) data encryption mechanism, (6) virtual assistant, (7) electronic archiving system, (8) new system for National Centralised Health Procurement Authority (EKAPY) and (9) Building Information Modelling (BIM) system.
6 - 2.2. Modernise - 16824_ERegistries	Milestone	Completion of ERegistries project	Report by the Ministry of Digital Governance documenting the implementation of 'e-registries'				Q4	2025	Completion of 'E-registries' including their interoperability and interfaces with existing registries in the public administration.

Group 10: Initiatives related to new technologies incorporation towards Public Administration's digital transition and modernisation

The measures included within this group are:

- Incorporation of new technologies and trends towards Public Administration's advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs (ID: 16928)
- Smart cities (ID: 16854)
- Supply of Central Cloud Computing Infrastructure and Service (ID: 16853)
- Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET) (ID: 16955)
- Enhancement of Public Sector's Business Continuity (ID: 16287)
- Expansion of Syzefksis II (ID: 16956)
- Data Governance strategy & policies for the Public Sector (ID: 16827)
- Central BI - Data Analytics (ID: 16842)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
6 - 2.2. Modernise - 16842_Central BI - Data Analytics	Milestone	Contract award Central Business Intelligence (BI)	Notification of award of contract				Q4	2022	Ministry of Digital Governance awards contract for Central BI - Data. Analytics, which shall cover : a) Developing and validating a data governance framework, Data Dictionary & identification of Key Performance Indicators b) Identification of Key Performance Indicators

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									<ul style="list-style-type: none"> c) Data Dictionary d) Data Governance Framework e) Design the Architectural Approach & Integration Points f) Configuration of the Data Warehouse g) Integration with Back-office Information Systems h) Building the BI Reports & Analytics i) Support of the Operations of BI Ecosystem for 3 years j) Licenses Fees for 200 users with super admin privileges and 200 TB of Storage.
6 - 2.2. Modernise – 16853 Supply of Central Cloud Computing Infrastructure and Service)	Milestone	Completion of Central Cloud computing infrastructure and service	Report by the Ministry of Digital Governance documenting the completion of the set-up of all project components and parametrize infrastructure for the central cloud computing infrastructure and services project.				Q2	2024	<p>Full completion of the set-up of all project components and parametrize infrastructure for the central cloud computing infrastructure and services project. Introduce and operationalize the central cloud computing infrastructure and services project. The new installed infrastructure shall include virtual machines and corresponding virtual networks (infrastructure as a service), platform as a service, three edge computing arrays, three special interfaces of high speed optical fibre and training and support services for the overall project.</p> <p>The Data Centres of the Cloud Services Provider shall be required to comply with the “European Code of Conduct on Data Centre Energy Efficiency”.</p>

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6 - 2.2. Modernise - 16854_Smart cities	Target	Full implementation of smart city projects		Number of cities that implemented infrastructures, platforms and systems to support their transformation into smart cities		11	Q4	2025	Implement projects to facilitate transformation of 11 Greek cities into smart cities through investments in smart sustainable cities and Infrastructures & Systems for a sustainable & green urban future. Such investments include: a) Availability and utilization of open data that shall enhance market development of innovative solutions and products for smart cities (such as IoT applications, big data and cloud.) b) Utilization of existing fixed and wireless networks. c) Activation of the research and academic community for the organization of complementary innovative actions. d) platforms that shall contribute to the creation of open city data time series, and e) creation of a digital twin”, as well as other citizen centric solutions and services that are included from the outset citizen participatory approaches (in a co-design manner).
6 - 2.2. Modernise - 16928_Incorporation of new technologies and trends towards Public Administration’s advanced services, increase of efficiency and effectiveness, and decrease of systems operating, upgrade and maintenance costs	Milestone	Completion of new technologies for public administration	Report by the Ministry of Digital governance summarizing how needs and gaps in technology solutions in public administration have been addressed				Q4	2025	Implement new technologies and tools to facilitate Public Administration’s digital transition and modernization, to decrease operational costs and enhance the value of public services offered.

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6 - 2.2. Modernise - 16955_Upgade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET)	Milestone	Completion of GRNET	Final report concluding the full implementation of all subprojects for the Upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET) by the Ministry of Digital Governance				Q4	2025	<p>Completion of the upgrade of Cloud-computing infrastructure and services of the National Infrastructures for Research and Technology (GRNET).</p> <p>Supply of supercomputer / replacement of part of the existing national system Data centre upgrades / modifications to support the new supercomputer Software installation, configuration, migration, pilot operation, control and evaluation of hardware performance.</p>
6 - 2.2. Modernise - 16287_Enhancement of Public Sector's Business Continuity	Milestone	Completion of public sector business continuity	Final report by the ministry of Digital Governance documenting the completion of the Public Sector's Business Continuity project, including the supply of the 71500 corporate laptops.				Q4	2025	<p>Completion of the Enhancement of Public Sector's Business Continuity project including the finalisation of the business continuity plan and the supply of the corporate laptops.</p>

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6 - 2.2. Modernise - 16956_Expansion of Syzefksis II	Milestone	Completion of Syzefksis II	Summary document verifying the implementation of the new infrastructure, register of entities of the public sector network, Security Management System, survey, monitoring mechanism, supply of equipment under the expansion of Syzefksis II by the Ministry of Digital Governance				Q4	2025	<p>Completion of the expansion of Syzefksis II.</p> <p>The following subprojects are included into the implementation scheme:</p> <ul style="list-style-type: none"> - Upgrading of Public Sector Network interconnections - Connection / disconnection / relocation / merge and upgrade of entities' services - Support / Maintenance of a Register of Entities of the Public Sector Network (Site Survey) - Publicity and Promotion Actions of the Public Sector Network (completion by Q3/2024) - Security Supervisor and Information Security Management System (SIS) of the Public Sector Network - Monitoring, quality control, implementation support and assistance upon the final acceptance of structured cable systems of the Public Sector Network - Support and monitoring of the site survey και rollout phases of SYZEFXIS II. - Supply of equipment for the interrupted supply of electricity in selected Public Sector Entities – Public Sector Network. - Next Generation Public Sector Network Design Services (PSN Next Gen) - Upgrading of the infrastructure of the Panhellenic School Network (SchoolNet).
6 - 2.2. Modernise - 16827_Data Governance	Milestone	Completion of data	Project conclusion report by the				Q4	2025	Completion of the project data Governance strategy & policies for the Public Sector

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strategy & policies for the Public Sector		governance strategy	Ministry of digital Governance summarizing how the Data Governance strategy & policies for the Public Sector have achieved the development of a Government Cloud Data governance strategy and ecosystem for open and reusable data in the public and private sector.						The project shall have achieved the following: the development of the Government Cloud Data Governance Strategy and policies and (b) the establishment of the framework, infrastructure, capacity and capabilities for public data governance, the policy for open and reusable data, and the provision of relevant services to the public and private sector.
6 - 2.2. Modernise - 16842_Central BI - Data Analytics	Milestone	Completion of Central BI	Project report by the Ministry of Digital Governance outlining how the Central BI project has created a central business intelligence and data analytics platform and how it is used				Q4	2025	<p>Completion of the following project: Central BI - Data Analytics.</p> <p>Implementation of single “National Dashboard” business intelligence solution and evaluation on its performance. The project shall have achieved the following :</p> <p>implementation of a Central Business Intelligence – Data Analytics Platform, which allows the public administration agencies to draw, integrate, and interpret data from any source and use them to analyse information that affects their</p>

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			by the public administration.						operations and workflows and facilitate strategy and decision-making.
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Group 11: Promote job creation and participation in the labour market / Education, vocational education and training, and skills-OAED- Reforms & Investments

The measures included within this group are:

- Restructuring and rebranding of OAED local PES (KPA2) (ID: 16941)
- Active Labour Market Policies Reform (ID: 16747)
- Strengthening the apprenticeship system (ID: 16794)
- Reform of Passive Labour Market Policies to Support Transitions to Employment (ID: 16746)
- Labor force skilling, reskilling and upskilling through a reformed training model (Vocational Education & Training Reform) (ID: 16792)

The milestones and targets set for this group are described in the following table:

Related Measure or Investment	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
8 - 3.1. Promote job creation and participation in the labour market - 16941_Restructuring	Milestone	OAED Organisational reform entry	Entry into force of legislation				Q3	2021	Entry into force of the organizational reform of the Hellenic Manpower Employment Organisation (OAED), restructuring, renovating and rebranding its local Public Employment

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and rebranding of OAED local PES (KPA2)		into force of legislation							Services with a view to improving quality, capacity and effectiveness of offered services.
8 - 3.1. Promote job creation and participation in the labour market - 16746_Reform of Passive Labour Market Policies to Support Transitions to Employment	Milestone	Mutual obligation framework reform entry into force of legislation	Entry into force of legislation				Q3	2022	Entry into force of legislation for reforming the mutual obligations framework, which sets out the relationship between the Public Employment Service (PES) and the jobseeker. Among others, the reform will include a new definition of active job search and sanctions for those unemployed not abiding by the new rules.
9 - 3.2. Education, vocational education and training, and skills - 16792_Labor force skilling, reskilling and upskilling through a reformed training model (Vocational Education & Training Reform)	Milestone	VET quality control system contract award	Notification of award of contract				Q2	2023	Contract award for the quality control system for vocational education and training (VET) aimed to improve quality control over the vocational training units of the Hellenic Manpower Employment Organisation (OAED), mostly through assessing its output and tracking progress and performance of trainees in the labour market.
8 - 3.1. Promote job creation and participation in the labour market - 16747_Active Labour	Target	ALMP upskilling reskilling employment		Number of unemployed persons (aged 25-45) who	0	13 500	Q4	2023	Successful completion of a comprehensive upskilling/reskilling and short-term employment programme for at least 13 500 unemployed workers (aged 25-45) out of the total 15 000 beneficiaries

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Market Policies Reform		programme completion		received a certificate of successful completion of the training programme					19% of allocated funds are expected to contribute to green skills and jobs and the green economy
9 - 3.2. Education, vocational education and training, and skills - 16794_Strengthening the Apprenticeship System	Target	Training courses completion of digitisation e-learning and completion of energy efficient renovations		Number training courses digitalized (e-learning courses)	0	250	Q4	2025	<p>Completion of digitisation of at least 250 training courses of the OAED Apprenticeship Vocational Schools (EPAS).</p> <p>The objective of the measure is to simplify learning processes and incorporate new methodologies and tools such as e-learning platforms and digitalized training content, both for apprentices and trainers.</p> <p>The completed construction and renovation works shall achieve, on average, at least a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786 or (b) to achieve, on average, at least a 30% reduction of direct and indirect GHG emissions compared to the ex-ante emissions.</p>
9 - 3.2. Education, vocational education and training, and	Milestone	VET quality control	Report by the national Employment				Q4	2025	Completion of VET quality control system aimed to improve quality control over the

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skills - 16792_Labor force skilling, reskilling and upskilling through a reformed training model (Vocational Education & Training Reform)		system completion	Organization confirming the completion of the of VET quality control system						vocational training units of the national Employment Organization (OAED) 45% of allocated funds are expected to contribute to green skills and jobs and the green economy
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Group 12: Ministry of Education and Religious Affairs – Reforms and Investments

The measures included within this group are:

- Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools (ID: 16933)
- Upgrading Vocational Education and Training (ID: 16934)
- Strategy for Excellence in Universities & Innovation (ID: 16289)
- Digital transformation of Education (ID: 16676)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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9 - 3.2. Education, vocational education and training, and skills - 16289_Strategy for Excellence in Universities & Innovation	Milestone	Universities of excellence Clusters of Research contract award	Notification of award of contracts				Q4	2023	Universities of Excellence: - award of contract with the selected universities to upgrade and improve their research and educational infrastructures (such as equipment or research laboratories), expand in new research areas and improve the training offered. The objective shall be to reinforce promising universities and university units of applied sciences and technology and enhance their competitiveness in international rankings. Strategy for Excellence in Universities & Innovation: Award of contracts for 70 collaborative research projects between universities and the private sector under the Clusters of Research and Excellence initiative.
9 - 3.2. Education, vocational education and training, and skills - 16676_Digital transformation of Education	Target	Interactive systems installation completion		Number of interactive learning systems installed	0	36 000	Q4	2024	Installation of at least 36 000 interactive learning systems (including white-boards, laptops, interactive projectors and internal cables) for classrooms of primary and secondary schools
9 - 3.2. Education, vocational education and	Target	Renewal modernisation of VET		Number of laboratories in VET	0	376	Q4	2025	Completion of renewal and complete technological modernization of the

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training, and skills - 16933_Upgrading Vocational Education and Training (VET): Supply of laboratory equipment for Laboratory Centers for IEK, EPAL, Post-Secondary Year-Apprenticeship Class and Vocational Training Schools		laboratory centres completion		schools completely modernised and renewed					infrastructure of laboratory equipment for 376 laboratories in VET schools: (-Institutes of Vocational Training(IEK) - Vocational Lyceums (EPAL) - Post-Secondary Year-Apprenticeship Class of Vocational Training Schools.
9 - 3.2. Education, vocational education and training, and skills - 16289_Strategy for Excellence in Universities & Innovation	Milestone	Visiting Professors completion	Report by the Hellenic Authority for Higher Education confirming the completion of the 'Visiting Professors' initiative and assessing its impact.				Q4	2025	Completion of the 'Visiting Professors' initiative and its assessment.

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9 - 3.2. Education, vocational education and training, and skills - 16289_Strategy for Excellence in Universities & Innovation	Target	Trust your stars completion		Number of projects completed	0	112	Q4	2025	Project completion, financial closure and assessment for 50 projects of individual researchers and 62 collaborative research projects ('Trust your Stars').
9 - 3.2. Education, vocational education and training, and skills - 16934_Upgrading Vocational Education and Training	Milestone	Upgrading VET system IEK, Model EPAL Digitalisation EOPPEP occupational profiles completion	Report by Ministry of Education confirming completion of projects				Q4	2025	<p>Completion of following projects aimed to upgrade the Vocational Education and Training system:</p> <ol style="list-style-type: none"> 1. Design and development of 5 thematic and 10 experimental Vocational Training Institutes (IEK), where the projects would encompass the provision of equipment and services, building interventions, and training of trainers; 2. Creation and/or gradual transformation of 25 Model Vocational Lyceums (Model EPAL), where the projects would encompass the provision of equipment and services, building interventions, and training of model EPAL teachers; 3. Digitalization of the National Organisation for the Certification of Qualifications and Vocational Guidance (EOPPEP), including the development of a

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									platform for e-examinations and an e-learning platform for VET; 4. Development and certification by EOPPEP of 200 occupational profiles in sectors such as energy, environment and digital economy.
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Group 13: Improve resilience, accessibility and sustainability of healthcare

The measures included within this group are:

- Organisational Reforms in the Health System (KETEKNY, ODIPY) (ID: 16756)
- Reform in the fields of mental health and addictions (ID: 16820)
- Reform of the Primary Health Care system (ID: 16755)
- Implementation of National Public Health Prevention Program “Spiros Doxiadis” (ID: 16783)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16755_Reform of the Primary Health Care System	Milestone	Primary Health Care family medicine curricula activation	Proof of start of courses for all newly activated academic curricula in family medicine and of the inclusion of a family medicine module in all medical curricula.				Q4	2022	Expand the number of active academic curricula in family medicine to at least 75% of medical schools in Greece and include a compulsory module in family medicine in all medical curricula. This shall include documentation, for the affected universities, highlighting the new architecture of degrees: 1) newly established curricula and 2) inclusion of the compulsory module in family medicine in existing curricula).
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16820_Reform in the fields of mental health and addictions	Target	Mental health – 50 units open – step 1 of 2		Number of Mental Health Units completed and operational	0	50	Q4	2022	Establishment and full operation of 50 Mental Health Units (implemented through a renovation of existing units) supported by the National Strategic Plan for the support of mental health (out of a total of 106 mental health units)
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare -	Milestone	Primary Health Care - contract	Notification of award of contracts.				Q4	2023	Notification of award of contracts sent by the Ministry of Health to contractors for the renovation of at least 156 Health Centres (50% of total Health Centres in Greece) that shall

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16755_Reform of the Primary Health Care System		award health centres							upgrade through energy efficient renovations and energy efficient measures regarding the public infrastructure and medical equipment. The notification of award shall be accompanied by a sample contract specifying a timeline for completion supporting the completion date Q4 2025 and by a report highlighting main features of the works to be undertaken.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16820_Reform in the fields of mental health and addictions	Target	Mental health – 106 units open – step 2 of 2		Number of Mental Health Units completed and operational	50	106	Q4	2023	Establishment and full operation of additional 56 Mental Health Units (implemented through a renovation of existing units) supported by the National Strategic Plan for the support of mental health (out of a total of 106 mental health units) as testified by reports documenting the completion and operationalization of Subprojects 1, 2, 3, 4, 5, 6.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16756_Organizational Reforms in the Health System (KETEKNY, ODIPY	Milestone	Health system – finalise the Greek DRG Institute KETEKNY and the new Agency for Quality Assurance in Healthcare ODIPY	Proof of completion of subprojects 1, 2, 3, for KETEKNY and subprojects 1, 2, 3 and 5 for ODIPY by means of submission of above deliverables and, for the renovation				Q2	2025	Complete the interoperability extension, the pilot on International Classification of Diseases(ICD) & Greek Medical Procedure classification (ETIP) medical coding consultation platforms and the pilot on the Financial and Accounting data collection platform (subprojects 1, 2, 3 KETEKNY) as well as the national strategy and proposed legislative framework for quality assurance, patient safety and patient engagement in healthcare services provision; the national Health Map; national strategy and proposed legislative framework for quality of Care and Safety policies and the renovation of a building within the «Sotiria» Thoracic Diseases

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		(excl. training)	(subproject 5 of ODIPY) a report on the completion of the building renovation						Hospital (Spiliopouleio), to be used as headquarters for the National Organization for Quality Assurance in Health (ODIPY) and the Greek Central Health Authority (KESY).
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16756_Organizational Reforms in the Health System (KETEKNY, ODIPY)	Target	Health system – KETEKNY ODIPY complete training		Number of healthcare professionals who completed the training programmes and are formally certified in clinical coding and billing and compliance assessment	0	4 500	Q2	2025	Completion of the training and certification of 4 500 health care professionals across the domains of clinical Coding & Billing (subproject 4 KETEKNY) and of compliance assessment based on the new Common Assessment Framework (subproject 4 ODIPY) proportionately to the needs identified for KETEKNY and ODIPY.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16783_Implementation of the National Public Health Prevention	Milestone	Spiros National Public Health Prevention Program 'Doxiadis' – all	Proof of completion of all projects as testified by reports for all areas (primary, secondary, tertiary and				Q4	2025	Completion of 100% of projects from the National Public Health Prevention Program "Spiros Doxiadis" (NPP"SD") 1. Primary Prevention: as testified by a report on the completed implementation of the i) National Program for the Promotion of Physical Exercise and Healthy Eating, ii) the National

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Program "Spiros Doxiadis" (NPP"SD")		projects completed	functional modernisation of the public health system) covering all actions and population covered by each action.						<p>Alcohol Program, iii) the National Vaccination Programme, iv) Interventions to prevent psychosocial problems in children and v) Dental prevention.</p> <p>2. Secondary prevention: as testified by a report on the completed implementation of i) the National Screening Program for the early detection of highly prevalent diseases, ii) National Systematic Prenatal Program and Perinatal Control.</p> <p>3. Tertiary prevention: as testified by studies on National Strategy and legal framework for Cancer Palliative Care.</p> <p>4. Functional modernization of the Public Health system: as testified by reports on the implementation of i) Functional Reorganization of the Population Health Monitoring System, ii) Efficiency and effectiveness of public health services, iii) Effectiveness of rapid response mechanisms to deal with emergencies and threats, iv) Improving the effectiveness of environmental health mechanisms, v) Improving the quality and scientific validity of the services provided, vi) Informatics organization for Public Health, vii) Extroversion.</p>
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare -	Target	PHC health centres –		Number of Health Centres (at least) where	0	156	Q4	2025	Completion of the infrastructure renovation to improve energy efficiency of at least 156 Health Centres (50% of total Health Centres in Greece).

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16755_Green investments - Reform of the Primary Health Care System		fully renovated		infrastructure renovation is fully completed and the centres are operational					
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Group 14: Improve resilience, accessibility and sustainability of healthcare

The measures included within this group are:

- Digital transformation of Health (ID: 16752)
- NHS Hospital Renovation and Infrastructure Upgrade (ID: 16795)
- Establishment of a Radiotherapy Center at the “Sotiria” Thoracic Diseases Hospital of Athens (ID: 16757)
- Project for the construction of a building dedicated to Cellular & Gene Therapies Hematology Clinic Laboratories within the General Hospital of Thessaloniki “Papanikolaou” (ID: 16793)
- Establishment of Home Health Care & Hospital at Home systems (ID: 16753)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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			(for milestones)	Unit of measure	Baseline	Goal	Quarter	Year	
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16752_Digital Transformation of Health (DigHealth)	Milestone	Health Care digital transformation - National Digital Health Record (subproject 1)	Report testifying completion of all major elements of Subproject 1 (Digital Health Record - see Description)				Q4	2023	Completion (full setup and implementation) of at least all the following elements of Subproject 1 supporting the digital transformation of the health care system so that the national digital health record shall be operational: 1) clinical documents, 2) terminology services, 3) national e-health interoperability framework, 4) collecting all laboratory results into the e-health record, 5) collecting discharge letters).
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16752_Digital Transformation of Health (DigHealth)	Milestone	Digital transformation – cancer digital program– subproject 2	Report testifying completion of all major elements of Subproject 2 (Cancer Digital Health Program – see Description) and full completion of Subproject 1				Q2	2024	Full operationalisation of the National Digital Health Record (full completion of Subproject 1) and completion of the main elements of the Cancer Digital Health (Subproject 2) supporting the digital transformation of the health care system. These require the full setup and full implementation of at least the following elements: 1) National Digital Health Record and 2) Cancer Treatment Information System (the system shall include therapeutic protocols for chemotherapy of which 36 are already under development), 3) patient registries, 4) implementation of the national cancer registry. Furthermore, the Cancer Treatment Information System shall have been installed in at least 8 (out of 12) Hospitals.

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10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16753_Establishment of Home Health Care & Hospital at Home systems	Milestone	Home care – opening of units	Reports testifying the opening of the 8 operational units providing home care and completion of all relevant subprojects				Q2	2025	Establishment of 8 staffed and operational units providing home care (2 in Athens, 1 in Thessaloniki, 1 in Alexandroupolis, 1 in Patra, 1 in Ioannina, 1 in Iraklion and 1 in Larisa) and completion of the following subprojects: a) 'current situation and needs assessment' survey (subproject 1) b) telemedicine application: devices and equipment for pilot home care centre to be installed and operationalised, including training (subproject 2) c) national registry for patients treated through home care (subproject 3) d) assessment criteria and key performance indicators (KPI's) (subproject 4)
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16795_NHS Hospital Renovation and Infrastructure Upgrade	Milestone	NHS Infrastructure upgrade completion	Report testifying completion of the infrastructure works for the NHS Hospital Renovation and Infrastructure Upgrade.				Q4	2025	Completion of the construction and infrastructure upgrade, including electromechanical and electrotechnical infrastructure, accommodation facilities and infrastructure with amenities, medical equipment and devices, and conclusion of contracts for service level agreements (SLAs) and facility management for all 80 affected hospitals across the seven regions.
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16757_Establishment of a Radiotherapy	Milestone	Sotiria Radiotherapy Centre completion	Report testifying completion of the infrastructure works for the establishment				Q4	2025	Completion of Sotiria Hospital new radiotherapy department and new building infrastructure; building infrastructure upgrade, bridge to interconnect emergency department with surgery department and other buildings; renovation of laboratory departments and clinics.

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Centre at the “Sotiria” Thoracic Diseases Hospital of Athens			of a Radiotherapy Centre at the “Sotiria” Thoracic Diseases Hospital of Athens.						
10 - 3.3. Improve resilience, accessibility and sustainability of healthcare - 16793_Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki “Papanikolaou”	Milestone	Papanikolaou hospital completion	Report testifying completion of the infrastructure works for the construction of a building dedicated to cellular and gene therapies and haematology clinic laboratories within the General Hospital of Thessaloniki “Papanikolaou”.				Q4	2025	Completion of new three-stories building to house all specialized laboratories and special nursing unit; restructuring of the ground floor of the existing building to have enough space for outpatient clinics and day care for Papanikolaou Hospital and shall achieve a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).
10 - 3.3. Improve resilience, accessibility and	Milestone	Digital transformation – all	Report testifying the finalisation				Q4	2025	Completion of all planned measures to implement the five (5) subprojects supporting the digital transformation of the health care system:

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sustainability of healthcare - 16752_Digital Transformation of Health (DigHealth)		subprojects complete	and full operationalization of the five subprojects supporting the digital transformation of the health care system covering all elements for each subproject.						<p>a) the national digital patient health record (subproject 1)</p> <p>b) the cancer treatment digital transformation program, including patient registries (subproject 2)</p> <p>c) telemedicine, including telemedicine stations, new infrastructure, tools (subproject 3)</p> <p>d) hospital digital readiness including: electronic medical record systems, medical equipment inventory, DRG implementation, 4e-prescription for inpatients/application of therapeutic protocols in hospital environment, e-appointment system, digital upgrade of the national emergency aid centre (EKAB) and medicines agency (EOF), (subproject 4)</p> <p>e) finalization of all elements of the integrated information system of EOPYY (the National Organization for the Provision of Health Services), all elements of expenditure management and monitoring, all elements of digital services to health providers and citizens, all elements of data management, analytics, and interoperability and purchase of 250 Enterprise Resource Planning (ERP) licenses for the financial management system & clearing (subproject 5).</p>
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Group 15: Increase access to effective and inclusive social policies

The measures included within this group are:

- Child Protection (ID: 16919)
- Disability: Social Benefits Optimisation (ID: 16726)

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- Childcare units within large companies (ID: 16945)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
11 - 3.4. Increase access to effective and inclusive social policies - 16904_Disability	Milestone	Personal assistance disability law and rollout of first phase pilot scheme	Entry into force of primary and secondary Legislation (Official Journal reference) and publication of notice for Call for Applications for Personal Assistance scheme.				Q1	2022	Personal assistance: Entry into force of the law to enable the de-institutionalisation of disability care, and call for applications for participating in a first phase pilot project including a process for eligibility based on both a medical and functional assessment of disability by a multi-disciplinary evaluation committee
11 - 3.4. Increase access to effective and inclusive social policies – 16726 Social Benefits Optimisation	Milestone	Social Benefits Optimisation pre-paid cards	Report by OPEKA and OAED attesting the completion of the introduction of prepaid cards for the payment of				Q4	2023	Completion of introduction of prepaid cards for the payment of social benefits provided by the Single Welfare Benefits Payment Authority (OPEKA) and the Public Employment Service (OAED)

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			social benefits provided by these two services						
11 - 3.4. Increase access to effective and inclusive social policies - 16904_Disability	Milestone	Completion of second phase personal assistance disability assessment	Report with statistical annex testifying that the two pilot schemes have been completed with at least 1800 beneficiaries. Evaluation report of the pilot scheme and assessment system with full statistics and recommendations.				Q4	2023	Completion of second phase of pilot programme for personal assistance, including functional disability assessment process; and Completion of evaluation of the effectiveness of medical and functional disability assessment system for Personal Assistance scheme and its possible broader extension.
11 - 3.4. Increase access to effective and inclusive social policies - 16919_Child Protection	Target	De-institutionalisation minors: disability professional foster carers completion		Number of minors placed in the care of professional foster carers	0	160	Q4	2023	Placement of 160 minors with severe disability (defined with a disability rate over 67%) and / or severe mental disorders in the care of professional foster carers.
11 - 3.4. Increase access to effective and	Target	Independent living apartments for de-institutionalisation		Number of adolescents placed in	0	200	Q4	2023	1) Placement of 200 adolescents in the apartments & supported living

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inclusive social policies - 16919_Child Protection		of adolescents completion		semi-independent living apartments					2) Development of self-sustainability capacity & gradual autonomy with the aim of smooth transition to adulthood & to readiness for integration into the labour market
11 - 3.4. Increase access to effective and inclusive social policies - 16904_Disability	Milestone	National rollout of Personal Assistance disability scheme.	Entry into force of the primary and secondary legislation for the national rollout. Report with statistical annex testifying that the roll-out has been completed.				Q3	2024	Nationwide roll-out of the Personal Assistance disability scheme, including medical and functional assessment process
11 - 3.4. Increase access to effective and inclusive social policies - 16919_Child Protection	Target	Childcare centres staffing completion		Number of early childcare places	12 500	62 500	Q4	2024	Completion and staffing of at least 50 000 new early childcare places Beneficiary entities will make requests to get a reimbursement by submitting all necessary documents. External controllers will check the expenses and will also make audit controls and visits to check whether the new places have been created

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11 - 3.4. Increase access to effective and inclusive social policies - 16945_Creation of childcare units within large companies	Target	Childcare units large companies completion		Number of childcare facilities in large companies	0	120	Q4	2024	Completion and staffing of at least 120 childcare facilities in large companies: companies targeted by this measure are 50 companies with more than 100 employees (medium) and 70 companies with more than 250 employees (large).
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Group 16: Increase access to effective and inclusive social policies - Migration & Asylum

The measures included within this group are:

- Digitalisation of the Migration and Asylum system (ID: 16763)
- Digital Transformation of the Social Support System (ID: 16925)
- Diversity awareness (ID: 16685)
- Social Integration (ID: 16922)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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				Unit of measure	Baseline	Goal	Quarter	Year	
11 - 3.4. Increase access to effective and inclusive social policies - 16925_Digital Transformation of the social support system	Target	Disability cards managing authority delivery completion		Number of disability cards delivered to beneficiaries	0	80 000	Q4	2023	<p>Completion of delivery by managing authority of 80 000 disability cards to beneficiaries.</p> <p>Disability cards will incorporate specific rights/benefits and shall facilitate people with disabilities in their daily lives</p> <p>Acceptance of deliverables of the contract (development of disability cards) by the manager/contracting authority and confirmation by the managing authority of the delivery of 80 000 disability cards to beneficiaries</p>
11 - 3.4. Increase access to effective and inclusive social policies - 16922_Social Integration	Target	Social integration GMI recipients homeless completion		Number of Guaranteed Minimum Income recipients and	0	7 000	Q4	2025	Successful completion of training and employment support program for 7 000 Guaranteed Minimum Income recipients and homeless people

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				homeless people with certified participation					and certification by the National Organisation of acquired skills
11 - 3.4. Increase access to effective and inclusive social policies - 16685_Diversity Awareness	Target	Diversity awareness training managers front-office completion		Number of managers and front office employees with certified participation	0	680 000	Q4	2023	<p>Completion of training on diversity targeting 680 000 managers and front office employees and certification</p> <p>The training programme shall be aimed to raise awareness of the various dimensions and benefits of diversity. It shall be appropriately designed and differentiated depending on the target group (senior executives, mid-level executives, front office executives and back office executives). Participation shall be remote (via platform) and asynchronous.</p>
11 - 3.4. Increase access to effective and inclusive social policies - 16763_Digital Transformation of	Milestone	Digitalisation Migration Asylum System completion	Confirmation on acceptance of deliverable by manager/contracting authority				Q4	2024	Completion of the digitalisation of the Migration and Asylum system through acceptance by the project manager/contracting authority of deliverables of the contract for a) the Digitization & Document Management System

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the social support system									of Legal Migration of the Central Service of Ministry of Migration and Asylum & Decentralized Administrations and b) the provision of Integrated Digital Migration Services
11 - 3.4. Increase access to effective and inclusive social policies - 16922_Social Integration	Target	Social housing renovation apartment completion		Number of apartments renovated and ready to be provided to beneficiaries	0	100	Q4	2024	<p>Completion of the renovation program for 100 apartments (70 in the Municipality of Athens and 30 in the Municipality of Thessaloniki) for 250 beneficiaries.</p> <p>The measure aims to provide housing support to most vulnerable groups threatened by or facing homelessness.</p>
11 - 3.4. Increase access to effective and inclusive social policies - 16688: Promote integration of the refugee population into the labour market	Target	Refugee labour market integration		Number of refugees who have completed traineeship programme	0	14 580	Q4	2025	<p>Completion of traineeship programs in firms for at least 14 580 refugees</p> <p>Report by OAED and Ministry of Migration and Asylum confirming the successful completion of the project for the above number of refugees</p>

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									Traineeships shall help refugees acquire work experience and facilitate their subsequent integration into the labour market.
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Group 17: Tax Administration measures

The measures included within this group are:

- Digital transformation of tax audits (ID: 16611)
- Promoting the acceleration of VAT refunds (ID: 16610)
- New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy) (ID: 16656)
- Digital Transformation of the Tax and Customs Administration (ID: 16291)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection	Milestone	Fight against smuggling – regulatory decisions roadmap	Report by the Independent Authority for Public Revenue containing the roadmap for the decisions				Q1	2022	The Independent Authority for Public Revenue shall adopt a roadmap (including timeline) for the issuance of the decisions /circulars related to the reform of the legal framework on the fight against smuggling.

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- 16656_New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy)			/circulars related to the fight against smuggling.						The Independent Authority for Public Revenue shall issue a report on the roadmap for the issuance of the decisions /circulars, detailing the steps needed for the redesign of the ICISNET and ELENXIS operational information systems, with the aim to effectively prioritise non-compliance risks and generate the best possible audit profiles, utilising information from the European Union and national databases.
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16656_New framework for the fight against smuggling, mainly for products subject to excise duties (tobacco, alcohol and energy)	Milestone	Fight against smuggling – adoption of regulatory decisions	Regulatory decisions / circulars entered into force.				Q3	2022	Entry into force of 15 regulatory decisions / circulars adopted by the Independent Authority for Public Revenue on the design of a new integrated system for the fight against smuggling. In accordance with the roadmap set by 31 March 2022, the decision / circulars entered into force shall concern the preparation of a new integrated system which shall support the audit process by monitoring customs transactions and procedures in real time. This system shall operate by aiming at better and faster targeting of the prosecuting custom services with central supervision and at the points of high interest.
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection	Milestone	Tax audits – Mydata and bank information	Report by the Independent Authority for Public Revenue attesting the:				Q2	2023	The activation of the Mydata system and the interconnection and use of third party bank information are expected to improve the compliance of businesses with tax rules, the performance of the Independent Authority for Public Revenue on public revenue collection, and control and the fight against smuggling.

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- 16611_Digital transformation of tax audits			a) Full activation of Mydata system. b) Completion of the project for the interconnection and use of third party bank information by the Independent Authority for Public Revenue.						
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16610_Promoting the acceleration of VAT refunds	Milestone	Fully automated VAT refunds – launch of IT system	Report by the Independent Authority for Public Revenue attesting the launch of the new IT system.				Q4	2023	Implementation of the fully automated VAT refund procedure and IT platform that shall allow for all refund requests to be completed electronically, when they do not fall under the audit sample through the risk analysis process (at least 90% of all requests annually).
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection	Milestone	Completion of digital transformation of tax audits	Report by the Independent Authority for Public Revenue attesting the operationalisation of the case				Q4	2025	Completion of the operationalisation of the case management platform for tax audits, which shall make use of the business intelligence / data analytics system supporting the digital transformation aiming to strengthen the capacity of the Independent Authority for Public Revenue to fulfil its obligations as a fully independent authority

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- 16611_Digital transformation of tax audits			management platform.						(in compliance with the Independent Authority for Public Revenue enabling law 4389/2016).
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16291_Digital Transformation of the Tax and Customs Administration	Milestone	Completion of first phase deliverables of the integrated tax & audit IT environment of the Independent Authority for Public Revenue as part of its digital transformation	Report by the Independent Authority for Public Revenue attesting the completion of the first phase deliverables of the integrated tax & audit IT environment.				Q4	2025	Completion of the first phase deliverables of the integrated IT environment (replacing TAXIS, TAXISnet, and Elenxis) to support tax and audit procedures for the Independent Authority for Public Revenue personnel, citizens and businesses supporting the digital transformation. These deliverables shall consist of all required project studies, full database redesign and implementation, provision of data interfaces and the rollout of first phase subsystems (including tax registry, accounting). The project shall strengthen the capacity of the Independent Authority for Public Revenue to fulfil its obligations as a fully independent authority (in compliance with the Independent Authority for Public Revenue enabling law 4389/2016).
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16291_Digital Transformation of the Tax and Customs Administration	Milestone	Launch of the commercial vehicles and containers surveillance system	Report by the Independent Authority for Public Revenue attesting the launch of the commercial vehicles and containers surveillance system.				Q4	2025	Completion of the implementation of a surveillance system for commercial vehicles and containers based on Internet-Of-Things networks (5G technology) for performing tracking operations supporting the digital transformation aiming to strengthen the capacity of the Independent Authority for Public Revenue to fulfil its obligations as a fully independent authority (in compliance with the Independent Authority for Public Revenue enabling law 4389/2016), through the launch of the commercial vehicles and containers surveillance system.

Group 18: Tax Policy

The measures included within this group are:

- Codification and simplification of tax legislation, rules and procedures (ID: 16643)
- Adoption of measures and incentives to increase electronic transactions (ID: 16973)
- Super – depreciation of expenses on green economy, energy and digitisation (ID: 16863)
- Incentivization regime for productivity and extroversion of enterprises (increasing the size of enterprises) (ID: 16598)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16863_Super – deduction of expenses on green economy, energy and digital transition	Milestone	Super-deduction for SME green and digital investments	Entry into force of primary and secondary legislation for Super-deduction for SME green and digital investments				Q4	2021	Entry into force of primary legislation and secondary legislation for the introduction of super-deduction for tax purposes of qualifying SME expenses for green economy and digitisation investments
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax	Milestone	Legislation to encourage	Entry into force of primary and secondary				Q4	2021	Entry into force of amendment of the primary and secondary legal framework

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collection - 16616_Adoption of measures and incentives to increase electronic transactions		electronic transactions	legislation, providing incentives for the enhancement of electronic transactions						providing specific incentives for the enhancement of electronic transactions
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16643_Codification and simplification of tax legislation	Milestone	Schedule for Tax Codification	Publication of secondary legislation with set up of committees and timetable for Tax codification.				Q3	2021	Comprehensive Schedule for Deliverables on Tax Codification, including set up of the relevant committees, detailed timetable from Ministry of Finance and IAPR for codification of tax legislation and consultation arrangements.
18 - 4.7. Improve competitiveness and promote private investments and trade - 16598_Incentivisation regime for productivity and extroversion of enterprises (increasing the size of enterprises)	Milestone	Draft legislation to encourage business extroversion	Drafts of primary and secondary legislation to encourage business extroversion.				Q3	2021	Drafts for consultation purposes of primary and secondary legislation providing improvements of legal framework of tax, financial and licensing and incentives for mergers, conversions and acquisitions
18 - 4.7. Improve competitiveness and promote private investments and trade - 16598_Incentivisation regime for productivity and extroversion of enterprises	Milestone	Legislation to encourage business extroversion	Entry into force of the legislation to encourage business extroversion				Q1	2022	Entry Into force of the relative amendments providing improvements in the legal framework of tax, financial and licensing and incentives for mergers, conversions and acquisitions

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(increasing the size of enterprises)									
4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16643_Codification and simplification of tax legislation	Milestone	Raising capacity for tax codification	Publication of secondary legislation for set up of Tax Codification unit in Ministry of Finance and Service Provision Directorate in IAPR.				Q2	2022	Set up of dedicated tax unit at the Ministry of Finance responsible for the consolidation and consistency of primary tax legislation and ministerial decisions.; Set up of a Service Provision Directorate at IAPR inter alia responsible for consolidating secondary legislation, coordinating the IAPR's competences regarding Code of Tax Procedure, and updating and maintaining the public tax database
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16643_Codification and simplification of tax legislation	Milestone	Recodifying income tax and tax procedure codes	Adoption of codified primary and secondary tax legislation for Income Tax Code and Tax Administration Code				Q2	2023	Enactment of codified Income Tax Code and Code of Tax Administration (primary and secondary legislation) to simplify and update the legislation in the light of digitalisation and EU best practices
12 - 4.1. Making taxes more growth friendly and improving tax administration and tax collection - 16643_Codification and simplification of tax legislation	Milestone	Completion of initial tax codification and taxpayer information system	a: 1. Adoption of codified primary and secondary tax legislation. 2. Provide proofs of payment and results of audits of				Q2	2024	a. Enactment of Codification of the primary and secondary legislation to simplify and update the legislation in the light of digitisation and EU best practices including: <ul style="list-style-type: none"> - VAT code - Stamp duty - Property taxes - State Debt Collection (KEDE)

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			codification investments. b: 1. Publication of secondary legislation and comprehensive guide with links to Content Management System and taxpayer website. 2. Provide proofs of payment and results of audits of CMS investments						- National Customs Code b. Set up of Content management system and dedicated website for taxpayer information.
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Group 19: Combating illegal trade and corruption

The measures included within this group are:

- Combating illicit trafficking and protecting intellectual property (ID: 16703)
- Strengthening the national anti-corruption framework (ID: 16952)
- Efficient Combating of Corruption (ID: 16978)

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Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16978_Efficient Combating of Corruption	Milestone	Asset declarations and political parties	Entry into force of new legislation				Q3	2022	Entry into force of the new legislation regarding: (i) Asset Declarations; (ii) and the codification of legislation on political parties.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public	Milestone	National anti-corruption action plan	Adoption by the National Transparency Authority of National Anti-Corruption Action Plan				Q3	2022	Adoption by the National Transparency Authority of the National Anti-Corruption Action Plan for the period 2022-2025, including the specification of: (i) actions to enhance transparency and accountability across public administration; (ii) targeted interventions to detect and prevent corruption in high-risk areas (including, for example, health, public finances, investments);

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procurement framework, capacity building measures and fighting corruption - 16952_Strengthening the National Anti-Corruption Framework through targeted interventions in the fields of detection, prevention and raising awareness			for the period 2022-2025						(iii) necessary regulatory interventions in selected policy fields.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16952_Strengthening the National Anti-Corruption Framework through targeted	Milestone	Internal Controls law implementation	<ul style="list-style-type: none"> - Report by the National Transparency Authority on internal control systems established - Regulatory acts issued - Joint Ministerial Decision issued 				Q4	2022	<p>Implementation of the new law on Internal Controls in public administration, including: (i) the establishment of internal audit units in line Ministries; (ii) the issuance of the regulatory acts for the establishment of internal audit units and audit committees in local government entities (1st and 2nd degree), universities, hospitals - health units, independent authorities, and legal entities of local government entities; (iii) the issuance of a Joint Ministerial Decision to set the criteria for the cooperation of internal audit units with external experts.</p> <p>The National Transparency Authority in cooperation with the Ministry of Interior shall provide oversight and guidance to general government entities to put in place a coherent and functioning Internal Control system. The</p>

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interventions in the fields of detection, prevention and raising awareness									National Transparency Authority shall facilitate a pilot self-assessment regarding the basic elements of the internal control system. The Hellenic Court of Auditors has included in its annual work plan, audits for the assessment of internal control arrangements across general government entities.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16702_Enhancing the AML/CFT Framework	Milestone	Enhanced Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) Framework	Platform for the collection of statistical data launched; improvements in beneficial ownership special registry completed				Q2	2023	(i) Launch of the platform for the collection of statistical data held by national competent authorities (i.e. judicial, supervisory and law enforcement) managed by the Directorate for Financial Policy of the Hellenic Ministry of Finance, which acts as the Central Coordinating Unit, according to law 4557/2018 (national AML law); (ii) Improvement of special registry for the record-keeping of beneficial ownership information to facilitate direct access of competent authorities to such information, and to interconnect with the respective registries of EU Member States through the relevant EU platform. The registry shall be owned by the Directorate for Financial Policy of the Hellenic Ministry of Finance, which acts as the Central Coordinating Unit, according to law 4557/2018 (national AML law) and hosted by the General Secretariat of Information Systems (GSIS) of the Ministry of Digital Governance.
13 - 4.2. Modernise the public administration, including through speeding up the	Milestone	Combating illegal trade - IT system and control stations	IT system is operational and 10 new fully equipped control				Q2	2025	An integrated and interoperable information system is put into operation to enable efficient management of controls carried out throughout the country to combat trafficking and control the movement of goods and services, both indoor

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implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16703_Combating illegal trade and protecting intellectual property			stations (including needed equipment) are fully operational						and outdoor trade. To ensure full utilisation of the new information system, the operational capacity of the Interagency Unit for Market Control (DIMEA), including peripheral infrastructure, shall be strengthened through access to required logistics equipment that are linked to the market surveillance database of the information system, enabling their use in on-the-spot controls and the immediate imposition of fines. - Completion of component to set up new control stations to combat illegal trade through 10 prefabricated buildings (ISOBOX) with needed equipment, including three scanners (HXM MobileScanTM or equivalent).
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Group 20: Enhancing the public administration

The measures included within this group are:

- GOV-ERP (ID: 16705)
- Accounting reform (ID: 16974)
- Modern institutional framework for State Owned Enterprises (ID: 16657)
- Enhancing the AML/CFT Framework (ID: 16702)
- Enhance State-aid network (ID: 16701)
- Modernise the Hellenic Consignment Deposit and Loans Fund (ID: 16940)
- Professionalization of the Public Procurement domain (ID: 16711)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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			(for milestones)	Unit of measure	Baseline	Goal	Quarter	Year	
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16701_Enhance State-aid network	Milestone	Enhanced State-aid network	Entry into force of the enhanced state-aid framework				Q4	2022	Entry into force of the amendments to the state aid legal framework for the operation of Central State Aid Network (CESANET), to strengthen the competencies of the Central State Aid Unit and the Decentralised State Aid Units
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16981_Enhancement of policy planning and coordination	Milestone	Policy planning and coordination – impact assessment	Training programme launched with 100 civil servants selected to attend.				Q4	2022	Following the launch of the electronic platform for impact assessment, a training programme and associated accreditation procedure shall be launched with at least 100 civil servants enrolled, including civil servants selected for the “executive branches” (Law 4622/2019, Article 104) aiming to improve the quality of the impact assessments prepared and facilitate the use of the electronic platform.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of	Milestone	Professionalisation of Public Procurement	New legislation entered into force; in-				Q2	2024	(i) Entry into force of new legislation providing for professional work streams for staff dealing with public procurement, specific skills’ groups

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public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16711_Professionalization of Public Procurement domain		domain - new legislation	depth study completed						and the adoption of financial and non-financial incentives in full consistency with the unified wage grid (Law 4354/2015) without setting any exemption; (ii) Submission of the in-depth study to re-organize the structure and the responsibilities of relevant bodies that procure public contracts.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16940_Modernise the Hellenic Consignment Deposit and Loans Fund	Milestone	Completion of all subprojects of the Hellenic Consignment Deposit and Loans Fund	Report by the Hellenic Consignment Deposit and Loans Fund attesting the completion of subprojects.				Q2	2025	Completion of all subprojects of the Hellenic Consignment Deposit and Loans Fund: (i) archive digitalisation and document management system; (ii) Integrated Information System; (iii) ERP Information System; (iv) Managed Printing Services; (v) Human Resources Management System.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16711_Professionalization	Milestone	Implementation of the National Strategy on Public Procurement 2021-2025	National Public Procurement strategy fully implemented				Q4	2025	Implementation of the entire national strategy on public procurement, including: (i) establishment of governance arrangements and re-organisation of stakeholders; (ii) set up of monitoring framework; (iii) entry into force of enabling secondary legislation and other actions to fully operationalise the framework; (iv) set up of key initiatives such as green procurement and procure2innovate,

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of Public Procurement domain									framework for certification of private e-procurement systems.
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16974_Accounting Reform	Milestone	Accounting Reform: Consolidated financial statements	Compilation of consolidated financial statements completed.				Q4	2025	<p>Compilation of consolidated financial statements for all general government subsectors, including local governments.</p> <p>To achieve these results, the following actions are needed:</p> <ul style="list-style-type: none"> • Design, implementation and operation of the fiscal and financial management and reporting functions of the Central Administration and the collection and monitoring of fiscal and financial data of all other General Government Entities outside central administration. • Introduce the invoice in GOV-ERP • Train the officers of the Financial Services entities on the General Government Accounting Framework (GGAF) and public financial management (PFM) related issues • Compile consolidated financial statements.
13 - 4.2. Modernise the public administration, including through speeding	Milestone	Government Enterprise	IT system fully operational.				Q4	2025	Carry out the digital transformation of the financial management and supervision framework through

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up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16705_Digital Transformation of Fiscal Management and Supervision in Governance & Electronic Invoicing		Resource Planning (GOV-ERP)							making the Government Enterprise Resource Planning (GOV-ERP) fully operational. In order to achieve this result, complete subprojects: Digital Transformation of Fiscal Management and Supervision of Government Entities of the General Government. Connection of ERP systems of General Government to the Greek e-Invoice. ensuring: - The connectivity of ERP systems to the e-invoice network - The connectivity of e-Invoice service providers to the e-invoice network
13 - 4.2. Modernise the public administration, including through speeding up the implementation of public investments, improving the public procurement framework, capacity building measures and fighting corruption - 16711_Professionalization of Public Procurement domain	Target	Completion of upskilling / reskilling programs for Public Procurement		Number of public officials trained and certified	0	6 000	Q4	2025	Completion of upskilling / reskilling programs for Public Procurement domain professionals and certification award.

Group 21: Improve the efficiency of the justice system

The measures included within this group are:

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- New Judicial Buildings and Renovation (ID: 16292)
- Digital Transformation of Justice (E-Justice) (ID: 16727)
- Skills and digital skills for judges and judicial employees (judicial staff) (ID: 16733)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
14 - 4.3. Improve the efficiency of the justice system - 16292_New Judicial Buildings	Milestone	Identification – Eligible Buildings	Completion of list				Q3	2021	Compilation of a list of buildings not affected by the revision of the judicial map.
14 - 4.3. Improve the efficiency of the justice system - 16575 Accelerating the administration of justice	Milestone	Technical support - Judicial Performance Tool	Award of tender for technical support				Q3	2022	Award of tender for technical support for the development of the Judicial Performance Tool based on strategic goals, introducing objective KPIs (time for completing a duty, individual performance in terms of time, communication, motivation etc.) by department and/or category of clerks and providing accurate and objective data on the allocation of bonuses; bonuses shall be payable in the first quarter after the end of the relevant year, on the basis of that year's performance. The tool shall be temporary and in full consistency with the

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									unified wage grid (Law 4354/2015) without setting any exemption for the elimination of court backlogs.
14 - 4.3. Improve the efficiency of the justice system - 16733_Skills and digital skills for judges and judicial employees (judicial staff)	Target	Training – Judges and Clerks		Number of judges enrolled in the national school of judges	0	10	Q1	2022	10 magistrate's court judges enrolled in the national school of judges
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Judicial Police – Secondary legislation	Entry into force of legislation				Q3	2022	<p>Entry into force of all secondary legislation (in the form of Presidential decrees or ministerial decisions, as appropriate) necessary for the full implementation of the law on the Judicial Police to assist the work of the Judicial and Prosecutorial Authorities with:</p> <ul style="list-style-type: none"> the provision of scientific and technical assistance to judges and prosecutors in matters requiring technical or professional expertise; the conduct of preliminary examinations and investigations; the execution of warrants; the provision of assistance in submitting or responding to requests for judicial assistance;

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									<ul style="list-style-type: none"> the service of documents and procedural acts; enforcing of judgments; guarding of and maintenance of order in courthouses; other procedural acts entrusted to it by the competent courts and public prosecutors
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Judicial map - primary legislation - administrative	Entry into force of legislation				Q4	2022	Entry into force of primary legislation for the revision of the judicial map for administrative justice.
14 - 4.3. Improve the efficiency of the justice system - 16292_New Judicial Buildings	Milestone	Judicial Buildings Construction and Renovation - List Adjustment – Launch of tenders	List of renovation projects in line with the relevant law on the revision of the judicial map, as per milestone 14 4.3 / Q4 2022; launch of tenders				Q4	2022	Adjustment of the list of projects in alignment with the revision of the judicial map as adopted in the law. Launch of the tenders regarding administrative courts. Terms of tender shall set out that newly constructed buildings shall achieve a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).

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14 - 4.3. Improve the efficiency of the justice system - 16733_Skills and digital skills for judges and judicial employees (judicial staff)	Target	Training – Judges and Clerks		Number of judges enrolled in the national school of judges	10	25	Q1	2023	14 additional magistrate court judges enrolled in the national school of judges, 1 judge of the court of audit enrolled in the national school of judges. This shall bring the total number of judges participating in training to 25
14 - 4.3. Improve the efficiency of the justice system – 16727 Digital Transformation of Justice (E-Justice)	Milestone	Upgrade Record Systems & IT Justice Systems	Project audit reports to confirm adherence to contractual obligations				Q2	2023	Receipt of official evidence, by means of appropriate documentation (certifications of completion, protocols of qualitative and quantitative acceptance and issued invoices) of the due and punctual performance of all contractual engagements due by that date, in compliance with project calendars, covering all elements of the two subprojects, (court record systems and upgrades to IT Justice systems (OSDDY-PP, OSDDY-DD, Court of Audits, National Criminal Record)), by appropriate means, (such as project audit reports, certificates of qualitative/quantitative delivery and evidence of disbursement).
14 - 4.3. Improve the efficiency of the justice system - 16575 Accelerating	Milestone	Adoption – Judicial Clerks Performance Tool	Entry into force of primary and secondary legislation				Q2	2023	Enactment of primary and secondary legislation to set up a temporary bonus system to be based on the development of a Judicial Clerks Performance Tool setting strategic goals and introducing objective KPIs (such as time for completing a duty, individual performance in terms of time, communication and motivation) by department

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the administration of justice									and/or category of clerks and provide accurate and objective data on the allocation of bonuses; bonuses to be payable in the first quarter after the end of the relevant year, on the basis of that year's performance.
14 - 4.3. Improve the efficiency of the justice system - 16292_New Judicial Buildings	Milestone	Contracts	Award of Contracts				Q2	2023	Award of contracts for construction projects not affected by the revision of the judicial map. Terms of award(s) shall set out that the new buildings to be constructed shall achieve a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Judicial Map revision – primary legislation - Civil and Penal	Entry into force of legislation				Q4	2023	Entry into force of primary legislation for the revision of the judicial map for civil and criminal justice.
14 - 4.3. Improve the efficiency of the justice system - 16292_New	Milestone	Judicial Buildings Construction and Renovation – Launch of tenders	Launch of tenders				Q4	2023	Adjustment of the list of projects in alignment with the law on the revision of the judicial map. Launch of the tender for the projects regarding civil and penal courthouses included in the revised list of renovations. Terms of tender shall set out that the new buildings to be constructed shall achieve a Primary Energy Demand (PED) that is at least 20%

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Judicial Buildings									lower than the NZEB requirement (nearly zero-energy building, national directives).
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Justice Police Operational	Judicial police fully operational and functional both at central and regional level				Q4	2023	Operationalisation of the judicial police in all its competences, both at central administration level and at regional level within the courts
14 - 4.3. Improve the efficiency of the justice system - 16733_Skills and digital skills for judges and judicial employees (judicial staff)	Milestone	Training – Judges and Clerks	Report certifying Implementation of changes in the syllabus of the National School of Judges and enrolment of 65% of judges and clerks in lifelong training				Q4	2024	<p>Full implementation of all projects included in the reform on skills and digital skills for judges and judicial employees, with:</p> <ol style="list-style-type: none"> 1. 65% of judges and clerks enrolled in lifelong training and having attended at least one training session (seminar) 3. The National School for Judicial Clerks in full operation 4. All changes in selection criteria and syllabus implemented <p>Changes in the educational programme of the National School of Judges aiming in particular at enhancing practical training and offering courses on ethics, time management, psychology, economic theory and analysis, management of courts and new technologies.</p> <p>Provision of lifelong training to Judges extending to various fields of law and managerial or procedural aspects relevant to judicial duties (management of courts, case management, communication and</p>

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									cooperation with national and foreign authorities); such training being a prerequisite to professional advancement. Training of judicial staff covering topics essential to their duties, i.e. management and organization of their service, digital skills, procedural and substantive law.
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Judicial Map revision – Progress	Progress report that reflects and verifies percentages as evidenced by official statements by the respective courts' administrations confirming the operationalisation and functionality of the reformed entities.				Q4	2024	Revision of the Judicial Map At least 70% of affected entities (courts) fully operational and functional regarding administrative justice; at least 40% of affected entities (courts) fully operational and functional for civil and criminal justice
14 - 4.3. Improve the efficiency of the justice system - 16292_New Judicial Buildings	Milestone	Construction and renovation works – e-identity - completion	Report verifying that all construction projects are fully completed and handed over to users.				Q4	2025	Completion of all remaining new buildings and renovations launched in Q1 2023 in line with the needs of the revised judicial map. Completion and full online operationalisation of the judicial buildings e-identity platform

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			Report confirmation of the full operationalisation and functionality of the e-identity platform.						
14 - 4.3. Improve the efficiency of the justice system – 16575 Accelerating the administration of justice	Milestone	Judicial Map revision – Full Implementation	Progress report that confirms operationalisation and functionality of all reformed entities on the basis of official documents.				Q4	2025	Revision of the Judicial Map Full implementation or the revision of the judicial maps for each administrative, civil and criminal justice, as evidenced by official statements by the respective courts' administrations confirming the operationalisation and functionality of the reformed entities.
14 - 4.3. Improve the efficiency of the justice system - 16727_Digital Transformation of Justice (E-Justice)	Milestone	Record-keeping and IT upgrades	Audio data record-keeping systems fully operational in all civil and penal courts. OSDDY-PP phase II, OSDDY-DD, Court of Audits and National Criminal Record				Q4	2025	E-Justice: Deliverables acceptance for the "Upgrade and expansion of the IT systems of the justice sector" on: <ol style="list-style-type: none"> 1. Upgrading the record-keeping system of the courts. 2. Upgrading and support of the IT systems of the Justice sector for civil, criminal and administrative courts, the court of audits and the national criminal record. The subprojects shall include the following: - Upgrading the record-keeping system of the courts - Upgrading and Support Services for the "Integrated Court Case Management System for the

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			projects fully implemented, delivered and operational.						Civil and Criminal Courts (OSDDY-PP A)” and the roll-out of the system to all Civil and Criminal Courts of the country (OSDDY-PP B) - The Upgrading and Support Services for the “Integrated Court Case Management System for the Council of State and all the Administrative Courts (OSDDY-DD) (www.adjustice.gr)”. - Upgrading and Support Services for the “National Criminal Records Register system (NCRIS) - Upgrading and Support Services for the Case Management System (“CMS”) of the Hellenic Court of Audit (ELSYN)
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Group 22: Strengthening the financial sector and capital markets

The measures included within this group are:

- Enhanced capital market supervision and trustworthiness (ID: 16581)
- Strengthening the capacity of the financial system to overcome legacy challenges and finance the real economy (ID: 16957)
- Implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance (ID: 16580)
- New Loans Promotion – Establishment of the Credit Expansion Observatory (ID: 16576)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	

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15 - 4.4. Strengthen the financial sector and capital markets - 16581_Enhanced capital market supervision and trustworthiness	Milestone	Capital markets, supervision, digitalisation of supervisory processes, Capital Market Union (CMU)	Entry into force of legislation (reference to Official Journal)				Q4	2021	Entry into force of a new law on the Hellenic Capital Market Commission, which will amend internal processes and organisation.
15 - 4.4. Strengthen the financial sector and capital markets - 16580_Implementation of the new unified insolvency framework for the restructuring of debt and 2nd chance	Milestone	Supervision, digitalisation of supervisory processes, CMU, capital markets, preventive debt restructuring	Reports testifying the operationalisation of the above systems, including links to websites where relevant				Q4	2024	Upgrade of the early warning and the preventive debt restructuring mechanism, which shall allow individuals and businesses to avoid over-indebtedness as well as to address debt settlement by utilizing out-of-court processes. The contractor shall upgrade the early warning and the preventive debt restructuring IT systems, operated by the Ministry of Finance/SecPD following assessment of their operation.
15 - 4.4. Strengthen the financial sector and capital markets - 16576_New Loans Promotion – Establishment of the Credit Expansion Observatory	Milestone	Capital markets, supervision, digitalisation of supervisory processes, CMU	Reports testifying the operationalisation of the systems, including links to websites where relevant				Q4	2024	The Credit Expansion Observatory IT system shall be completed and put into operation, consisting of a data collection IT system, which shall monitor credit expansion and thus improve readiness of the State policy-making decisions.

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15 - 4.4. Strengthen the financial sector and capital markets - 16581_Enhanced capital market supervision and trustworthiness	Milestone	Capital markets, supervision, digitalisation of supervisory processes, Capital Market Union (CMU)	Operationalisation of the CMU IT system				Q4	2025	1. Completion of the re-design and roadmap to new organizational structure, data management, personnel training, 2. Development and/or acquisition of IT infrastructure and applications for the systematic receipt, storage, retrieval and management of transactions on the stock market data and ancillary information for the production and management of alerts and audit reports; 3. Introduction of a large scale IT system and integration of all the data currently (and in the future) collected by Hellenic Capital Markets Commission staff allowing the multidimensional analysis, review and overview of current market conditions enabling fine tuning of procedures and interventions
15 - 4.4. Strengthen the financial sector and capital markets - 16957_Strengthening the capacity of the financial system to overcome legacy challenges and finance the real economy	Milestone	Debt resolution, NPL resolution, NPL sales, financial stability, Public Credit Bureau, solvency, NPL Strategy, Private Debt Monitoring Registry.	Report verifying the completion of the 33 projects planned under the Strategy				Q4	2025	The National Private Debt Resolution Strategy has been put in place and fully operationalised, in particular through launching the Public Credit Bureau and the Private debt Monitoring Registry. The Central Credit Registry (CCR closely related to the above projects, complements the national strategy for reducing NPLs, increasing transparency and regaining investors' confidence). These actions aim at preventing future private debt build-up and empowering the NPL market, including by tackling information asymmetries, which facilitate credit decision-making and increase

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									<p>transparency of the payment history and the level of collateral provided.</p> <p>Public Credit Bureau: Development of the solvency assessment IT system and completion of its pilot operation.</p> <p>Launch of the IT system of the Private Debt Monitoring Registry.</p> <p>Successful completion of the national NPL Strategy, including actions facilitating NPL transactions: (i) Draft, consult and launch new legislation eliminating tax disincentives to NPL transfers, (ii) establish a common data template for the NPL transactions, (iii) establish a common template for the portfolio screening and evaluation, (iv) design a transaction platform for NPL portfolios to assist sellers and buyers to exchange information and submit bids in an efficient and confidential manner.</p> <p>Establishing the necessary IT infrastructure for the CCR. The CCR shall be a national database, hosted in the Bank of Greece, thus supporting its obligations and functions in supervising the financial sector and ensuring financial stability. The Bank of Greece (BoG) shall act as data controller and shall ensure that strict security and data protection protocols are in place, to safeguard borrowers' information, submitted by lenders to the CCR. Other services of the</p>
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									Ministry of Finance (Special Secretariat for the management of Private Debt) shall also benefit through possible (to the extent necessary) interoperability of the system with the Public Credit Bureau and the Private Debt monitoring Register. The Ministry of Justice (as co -responsible for the e-collateral register) could also benefit. The Ministry of Digital Governance could be a key-player for the design and operation of the CCR.
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Group 23: Promote research and innovation

The measures included within this group are:

- Creation - Expansion – Upgrade of Infrastructures of Research Centres supervised by the General Secretariat for Research and Technology (GSRT) (ID: 16624)
- Basic & Applied Research (ID: 16618)
- TH 2 ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system (ID: 16654)
- Research - Create - Innovate (ID: 16971)
- HORIZON 2020 “Seal of Excellence”: financing top innovative companies (ID: 16622)
- Extroversion of the Research and Innovation Ecosystem of Greece (ID: 16621)

The milestones and targets set for this group are described in the following table:

Related Measure	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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(Reform or Investment)				Unit of measure	Baseline	Goal	Quarter	Year	
16 - 4.5. Promote research and innovation - 16618_Basic & Applied Research	Milestone	Legislation on Basic & Applied Research	Entry into force of legislation (primary and secondary acts establishing the legal entities)				Q1	2022	<p>Entry into force of a revised legal framework for Basic & Applied Research, and issuance of secondary acts establishing the legal entities.</p> <p>The legal framework shall: a) redefine research areas for financing calls under the updated National Smart Specialization Strategy (RIS3); b) establish a new governance structure to improve management and coordination over these projects; and c) establish the legal status of new research entities.</p> <p>Research areas shall be redefined jointly by the National Council for Research and Innovation (NCRI) and the General Secretariat of Research and Innovation of the Ministry of Development (GSRI).</p>
16 - 4.5. Promote research and innovation - 16624_Creation - Expansion – Upgrade of Infrastructures of Research Centers supervised by	Milestone	Call for proposals for Research Centres	Launched call for proposals and tender specifications published				Q1	2022	<p>Launch of the Call for Proposals for Creation - Expansion - Upgrade of Infrastructures of Research Centres, including the publication of tender specifications that shall ensure that the selected applications comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p>

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the General Secretariat for Research and Innovation (GSRI)									
16 - 4.5. Promote research and innovation - 16624_Creation - Expansion – Upgrade of Infrastructures of Research Centers supervised by the General Secretariat for Research and Innovation (GSRI)	Milestone	Contracts award for Research Centres	Notification of award of contracts				Q1	2023	Selection of proposals and award of contracts for project Creation- Expansion - Upgrade of Infrastructures of Research Centres supervised by the General Secretariat for Research and Innovation (GSRI).
16 - 4.5. Promote research and innovation - 16654_TH 2 ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous	Milestone	Contracts award for TH ² ORAX	Notification of award of contracts				Q1	2023	Award of contracts for TH ² ORAX project. The Ministry of Development and Investments along with the General Secretariat for Research & Innovation (GSRI) shall be responsible for the effective implementation of the evaluation process. The contract(s) shall be awarded based on the Best Price Quality Ratio.

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eXemplary system									
16 - 4.5. Promote research and innovation - 16624_Creation - Expansion – Upgrade of Infrastructures of Research Centers supervised by the General Secretariat for Research and Innovation (GSRI)	Milestone	Completion of Research Centres projects	Report by the General Secretariat for Research & Innovation (GSRI) testifying that the projects are completed				Q4	2025	Completion of all sub-projects under Creation - Expansion - Upgrade of Infrastructures of Research Centres supervised by GSRI, namely: Foundation for Research and Technology Hellas; Athena Research and Innovation Centre; BSRC Flaming; Centre for Research and Technology Hellas; National Hellenic Foundation; Biomedical Research Foundation Academy of Athens; National Observatory of Athens; Hellenic Centre for Marine Research; Hellenic Pasteur Institute; National Centre of Social Research; NOESIS - Thessaloniki Science Centre & Technology Museum; Greek Atomic Energy Commission; Patra's Science Park; High Technology and Research Park in the Region of Epirus.
16 - 4.5. Promote research and innovation - 16618_Basic & Applied Research	Milestone	Completion of Basic & Applied Research projects	Report by the General Secretariat for Research & Innovation (GSRI) testifying that the projects are completed				Q4	2025	Completion of the following subprojects under the Basic Applied Research measure: Basic Research financing; Flagship research projects in challenging interdisciplinary sectors; establishment of applied R&I institute on Artificial Intelligence, data processing and algorithm development; delivery of market-translatable sustainable materials technologies; participation to the European Partnerships for High Performance Computing (Euro-HPC) and key digital technologies; applied research for drones development (funding for unmanned systems research and development centre); applied research for precision medicine through a non-profit

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									organization (NPO) under private law – ‘Hellenic Precision Medicine Network’ (HPMN).
16 - 4.5. Promote research and innovation - 16654_TH 2 ORAX: Trellis Holistic & Hybrid Operational Ruggedized Autonomous eXemplary system	Milestone	Completion of TH ² ORAX project	Report by the General Secretariat for Research & Innovation (GSRI) testifying that the project is completed				Q4	2025	Completion of TH ² ORAX project Through the development of a holistic platform that shall provide situational awareness, decision making capabilities enhancing the coordination and synchronization of all relevant competent authorities, in real time and on a 24/7 basis, for the whole Greek territory at an interdisciplinary and an inter-ministerial level is completed and the associated completion report is issued by the GSRI.
16 - 4.5. Promote research and innovation - 16971_Research - Create - Innovate	Milestone	Completion of Research - Create - Innovate projects	Report by the General Secretariat for Research & Innovation (GSRI) testifying that the projects are completed				Q4	2025	Completion of all eligible interventions of the Research Create Innovate measure in the following categories: Research and Development for enterprises; partnerships of enterprises with research organisations; exploitation of research results; and ‘Seal of Excellence’ for excellent, but not financed proposals from HORIZON 2020 relevant call.
16 - 4.5. Promote research and innovation - 16621_Extroversion of the Research and Innovation	Milestone	Completion of extroversion of R&I ecosystem projects	Report by the General Secretariat for Research & Innovation (GSRI) testifying that the projects are completed				Q4	2025	Completion of the following subprojects of the extroversion of the Research and Innovation ecosystem measure: promotion and global publicity of national start-up & innovation ecosystem; software development, maintenance and upgrade-evaluation process support.

Ecosystem of Greece									
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Group 24: Infrastructure

The measures included within this group and related sub-groups:

Sub-group 1 (digital transformation)

- Smart Infrastructure with environmental and cultural focus (ID: 16960)
- Smart Bridges (ID: 16949)
- Electronic Tolls (ID: 16950)
- Simplification of the Procedures of the Ministry of Infrastructure & Transport (ID: 16786)

Sub-group 2 (railways and buses)

- Interventions for the upgrade and redeployment of the Greek rail network system and infrastructure (ID: 16937)
- Organisational reform in the railways sector (ID: 16982)
- Digital Transformation of the Hellenic Railways Organization (ID: 16959)
- Upgrading suburban railway of West Attica (ID: 16892)

Sub-group 3 (ports and airports)

- EASA compliance Program (ID: 16833)
- Upgrade Interventions for Regional Ports (ID: 16975)
- Master plan for the renewal of the Greek passenger shipping fleet (ID: 16944)

The milestones and targets set for this group and sub-groups are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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			(for milestones)	Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16982_Organisational reform in the railways sector	Milestone	Roadmap for railways reform	Roadmap				Q3	2021	Sub-group two: Preparation of a roadmap with the steps for the complete re-organisation of the companies OSE and ERGOSE.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16982_Organisational reform in the railways sector	Milestone	Railways reform law	Entry into force of primary and secondary legislation				Q2	2022	Sub-group two: Organisational reform in the railways sector; Entry into force of primary and secondary legislation for the reform of the two companies allowing them to develop, operate and maintain a modern railway network.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16954 Interventions for the upgrade and redeployment of the Greek rail network system and infrastructure	Milestone	PPP contract award for upgrade and redeploy rail network	Notification of award of contracts				Q1	2023	Sub-group two: Public-private partnership contract award for Interventions for the upgrade and redeployment of the Greek rail network system and infrastructure to a) restore the “design speed” in all sections of the infrastructure, b) improve journey time and levels of safety, c) upgrade existing rail network across the country and d) enhance the quality of rail services.

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									The upgrade shall specifically cover] the upgrade of the existing railway infrastructure and superstructure, electromechanical systems, signalling, telecommunications and electrification and other facilities required for the network operation as follows: 1. Network branch Piraeus – Athens – Thessaloniki and north borders. 2. Network branch Macedonia – Thrace 3. Network branch Athens airport – Kiato
17 - 4.6. Modernise and improve resilience of key economic sectors - 16950_Electronic Tolls	Milestone	Contract award for e-tolls	Notification of award of contracts				Q2	2023	Sub-group one: Contract awarded for e-tolls for the provisions of a uniform, cost-effective, transparent, and user-friendly service.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16833_Implementation of EASA compliance rectification works	Milestone	Notification of t award for European Union Aviation Safety Agency (EASA) works in regional airports	Notification of award of contracts				Q2	2023	Sub-group two: European Union Aviation Safety Agency (EASA) compliance Program: All contracts for rectification works of 13 regional airports to comply with the new Regulation (EU) 2018/1139 signed.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16982_Organisational reform in the railways sector	Milestone	Implementation of railways reform	The new entities of OSE/ERGOSE will be fully operational.				Q4	2023	Sub-group two: Implementation of organisational reform in the railways sector. New entities OSE/ERGOSE shall be fully operational. The European Rail Traffic Management System (ERTMS) shall be fully deployed on the core network PATHE.

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			ERTMS functioning on PATHE						
17 - 4.6. Modernise and improve resilience of key economic sectors – 16833_Implementation of EASA compliance rectification works	Milestone	Completion of EASA works	Certification by EASA				Q2	2025	Sub-group two: All rectification works in the 13 airports shall be completed and certified by EASA.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16954 Interventions for the upgrade and redeployment of the Greek rail network system and infrastructure	Milestone	Upgrade of rail network completed	Certification by OSE that the elements have been implemented and received				Q4	2025	Sub-group two: Project completion of interventions for the upgrade and redeployment of the Greek rail network system.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16892_Upgrading suburban railway of West Attica	Milestone	Completion of West Attica railway	Certification report by OSE that the project is completed and received by OSE				Q4	2025	Sub-group two: Completion of West Attica suburban railway from Ano Liossia to Megara.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16949_Smart Bridges	Milestone	Completion of smart bridges project	Completion report by an independent engineer ratified by				Q4	2025	Sub-group 1: Completion of smart bridges project providing intelligent preventive maintenance service of bridges in several regions of the country.

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			Ministry of Infrastructure						
17 - 4.6. Modernise and improve resilience of key economic sectors - 16950_Electronic Tolls	Milestone	Completion of electronic tolls project	Completion report by an independent engineer ratified by Ministry of Infrastructure				Q4	2025	Completion and launch of an electronic tolls interoperable system that will enable the automatic electronic toll collection for all vehicles moving on Greece's highways.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16959_Digital Transformation of the Hellenic Railways Organization	Milestone	Completion of digital transformation of OSE project	Completion report by OSE.				Q4	2025	Completion of the OSE digitalisation project: 1. Ticket Management and Telematics System, with at least 60% passengers using electronic tickets; 2. Infrastructure of smart stations; 3. Customer Experience Services; 4. Implementation and Operation of Telecommunication Network for high speed Internet on Trains and Stations; 5. OSE Vehicle Telematics System Installation Services; and 6. Training Services.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16960_Smart Infrastructure with environmental and cultural focus	Milestone	Completion of smart infrastructure project	Projects completed supported by report by an independent engineer ratified by				Q4	2025	All sub-projects completed: 1. Information System for watercourses delineation to contribute to nature and biodiversity protection; 2. Digital Bank for Building Plot Ration transactions; 3. Single Digital Map;

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			Ministry of Infrastructure						4. Digital action measurement and monitoring of air pollutants and marine pollution for the optimization of the environmental footprint and digital environmental inspections to contribute to improving air quality; and 5. Smart infrastructure and Development of interactive digital services and digital content production for the promotion of cultural exhibits with Augmented and Virtual Reality for Museums.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16937_Digital Integrated Program Management System for the Administration of the Technical Works and Structural Assets of the Ministry of Infrastructure and Transport	Milestone	Completion of PMIS for the Ministry of Infrastructure	Completion report of the Ministry of Infrastructure				Q4	2025	Provision of a state-of-the-art PMIS (Portfolio Management Information System) for the Ministry of Infrastructure.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16786_Simplification of the Procedures of the Ministry of Infrastructure & Transport	Milestone	Simplification of procedures for Ministry of Transport	Completion report of the Ministry of Infrastructure				Q4	2025	Entry into force of a new operational model implementing the digital transformation and simplification of procedures.

Group 25: Culture

The measures included within this group are:

- Labor Reform in the Cultural Sector (ID:16715)
- Culture as a driver of growth (ID: 16293)
- Museum of underwater antiquities (ID: 16486)
- Utilising “arts on prescription”, promoting social cohesion, and tapping on the silver economy (ID: 16735)
- Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by HOCRED (ID: 16536)
- Highways for Nature and Culture (ID: 16970)
- Protection of cultural monuments and archaeological sites from climate change (2nd Group) (ID: 16433)
- Upgrading higher arts education (ID: 16725)
- Cultural Routes At Emblematic Archeological Sites and Monuments (ID: 16485)
- Restoration - Conservation- Enhancement of the Acropolis Monuments (ID: 16435)
- Skill building for creative and cultural professionals (ID: 16723)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16715_Labor	Milestone	Legislation for Labour Reform in the Cultural sector	Entry into force of legislation and secondary legislation and set up of a system to credibly				Q3	2022	Entry into force of legislation for Labour Reform in the Cultural sector, including definition of a status of “creative or cultural professionals” and proportionate tax and social security incentives.

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Reform in the Cultural Sector			evaluate status of the “creative or cultural professional”						
17 - 4.6. Modernise and improve resilience of key economic sectors - 16486_Museum of underwater antiquities	Milestone	Contract award for Museum of underwater antiquities	Notification of award for Museum of underwater antiquities and Detailed timetable for works on Museum of underwater antiquities				Q4	2023	Contract award on Museum of underwater antiquities.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16293_Culture as a driver of growth	Milestone	Contemporary Greek Culture Brand and Platform	Report on Contemporary Greek Culture Branding, Green design platform, Greek music database and revived Greek literature translation programme.				Q4	2023	Culture as Driver of Growth: Contemporary Greek Culture Branding developed, set up of Greek Design platform, Greek music database and updated Greek literature translation program
17 - 4.6. Modernise and	Target	Skill building for creative		Number of registered	0	1 800	Q4	2023	Skill building for creative and cultural professionals: Completion of first cycle of

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improve resilience of key economic sectors - 16723_Skill building for creative and cultural professionals		and cultural professionals (mid-term)		cultural and creative professionals who have completed the first cycle of training					training for cultural and creative professionals, training at least 1 800 of Greece's registered professionals
17 - 4.6. Modernise and improve resilience of key economic sectors - 16970_Highways for Nature and Culture	Milestone	Highways for Nature and Culture	Completion report, including proofs of payment and results of audits of investments, certification from beneficiaries on investment completion				Q4	2025	Completion of Highways for Nature and Culture: investment in the physical infrastructure of at least 28 monuments and installation of 5G infrastructure along routes of particular natural and cultural interest to tourists, complemented with the development of digital services, e-commerce services and certification of providers of local goods and services.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16293_Culture as a driver of growth	Milestone	Culture as a driver of growth	Completion reports of all sub-projects, including proofs of payment and results of audits of investments, certification				Q4	2025	Completion of Culture as a driver for Growth Finalisation of sub-projects covered in Q2 2023 and completion of remaining contracts regarding the digital transformation of cultural production and distribution: providing support to Cultural and Creative Industries (CCIs) regional strategies; providing support to local craft ecosystems;

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			from beneficiaries on investment completion						broadening the use of archaeological sites and monuments as venues and events sites; promotion of the film industry. Completion of energy efficient renovations and energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures by upgrading existing public buildings.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16536_Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by HOCRED Stores – former ARF Stores (On-spot and electronic	Milestone	Upgrade of the Hellenic Organisation of Cultural Resources Development (HOCRED)	Completion reports, including proofs of payment and results of audits of investments, certification from beneficiaries on investment completion.				Q4	2025	Improvement to Hellenic Organization of Cultural Resources Development (HOCRED) operations, including energy efficiency renovations, construction and upgrading of the infrastructure and provision of equipment for the physical and on-line stores and upgrades of the quality of services.
17 - 4.6. Modernise and improve resilience of key economic	Milestone	Upgrading higher arts education	Completion report, including (a) proofs of payment and				Q4	2025	Completion of Higher Arts Education Project, including setting up new Audiovisual school and completion of relocation of the National School of Dance and the Thessaloniki State

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sectors - 16725_Upgrading higher arts education			results of audits of investments, certification from beneficiaries on investment completions; and (b) documented revisions to legal framework with references to Official Journal.						Conservatory; and revision of legal framework to upgrade curricular and ensure the quality of art education.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16723_Skill building for creative and cultural professionals	Target	Skill building for creative and cultural professionals (completion)		Number of registered creative and cultural professionals who completed the training	1 800	3 600	Q4	2025	Completion of Skill building for creative and cultural professionals: Completion of first cycle of training for cultural and creative professionals, training at least 3600 of Greece's registered CCI professionals.
17 - 4.6. Modernise and improve	Milestone	Museum of underwater antiquities	Completion Report, including				Q4	2025	Completion of Museum of underwater antiquities: (1a) completion of energy efficiency works and

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resilience of key economic sectors - 16486_Museum of underwater antiquities			(1a) Certification on investment completion; and (1b) Certification of works for permanent exhibition space, conservation works and documentation and publications supporting exhibition.						(1b) organisation of permanent exhibition creating substantial added value for tourism and culture for Piraeus and the wider Athens area.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16485_Cultural Routes At Emblematic Archaeological Sites And Monuments	Milestone	Cultural Routes at Emblematic Archaeological Sites	Completion Report, including Certification from beneficiaries on investment completion.				Q4	2025	Completion of Cultural Routes: providing five geographically spread cultural routes with thematic narratives from Greek history, including the preservation and restoration of selected monuments, the upgrade of services and infrastructure, the development of interactive digital applications, and the inclusion of arts and cultural events.
17 - 4.6. Modernise and	Milestone	Utilizing "arts on	Completion Report,				Q4	2025	Completion of Arts on Prescription, improving physical access and providing

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improve resilience of key economic sectors - 16735_Utilizing “arts on prescription”, promoting social cohesion, and tapping on the silver economy		prescription” ,	including Certification from beneficiaries on investment completion.						guided tour systems with hearing and vision aids to cultural venues such as museums, theatres, festivals, archaeological sites; and promoting interventions which use the arts and culture to aid recovery from mental health issues
17 - 4.6. Modernise and improve resilience of key economic sectors - 16433_Protection of cultural monuments and archaeological sites from climate change	Milestone	Protection of cultural monuments from climate change	Completion Report, including Copies of climate change adaption plans, proofs of payment and results of audits of investments certification of investment completion				Q4	2025	Completion of Protection of cultural monuments from climate change, including development of climate change adaptation plans for cultural heritage sites thus sustaining the contribution of cultural heritage sites to economic activity, including spatial and temporal assessments of the climate risks and identification of vulnerabilities faced by cultural heritage sites.
17 - 4.6. Modernise and improve resilience of key economic sectors -	Milestone	Restoration - Conservation - Enhancement of the Acropolis	Completion Report, including g proofs of payment and results of				Q4	2025	Completion Restoration of Monuments of the Acropolis to preserve the monument against the climate change, including restoration work for the Parthenon and Walls, conservation of specific parts of the site, consolidation

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16435_Restoration - Conservation-Enhancement of the Acropolis Monuments			audits of investments, certification of investment completion.						and stabilisation of rock masses and improved visitor access works.
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Group 26: Tourism and Shipping

- Tourism Development (includes sub-project Upgrade interventions to tourist ports) (ID: 16931)
- Reskilling and Upskilling in Tourism (ID: 16921)
- Upgrade Interventions for Regional Ports (ID: 16975)
- Master plan for the renewal of the Greek passenger shipping fleet (ID: 16944)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16931_Tourism Development	Milestone	Tourist development: reforms for tourist ports	1. Entry into force of amendments to law 2160/1993 on tourist ports. 2. Entry into force of amendments to				Q1	2022	(1) Tourist Development: Entry into force of legislation to reform the legal framework for tourist ports law to encourage new investments, including amendment of provisions relating to installation and operation licensing in line with the Investment Licensing Law 4442/2016.

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			laws 4179/2013 and 4276/2014 concerning ski resorts. 3 Report attesting the establishment of the Project Management Office.						(2) Tourist Development: Entry into force of legislation to reform the legal framework for ski resorts to encourage new investments, including amendment of provisions relating to installation and operation licensing in line with the Investment Licensing Law 4442/2016. (3) Tourism Development: Establishment of Project Management Office for supervision of investments in upgrade of Tourist ports.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16975_Upgrade Interventions for Regional Ports	Target	Contracting for Regional port upgrades		Notification of award of contracts for individual projects	0	28	Q2	2023	Notification of award of contracts for regional port upgrades to improve energy efficiency shall be completed.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16944_Master plan for the renewal of the	Milestone	Master plan for Greek passenger shipping	Completed report and summary of consultation exercise.				Q2	2025	Master plan for the renewal of the Greek passenger shipping fleet: Completion of project

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Greek passenger shipping fleet									
17 - 4.6. Modernise and improve resilience of key economic sectors - 16931_Tourism Development	Milestone	Tourism development: contracting for tourist ports	Notification of award of contracts				Q4	2023	Contract award process for Tourist port upgrades to improve energy efficiency shall be completed.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16921_Reskilling and Upskilling in Tourism	Target	Reskilling and Upskilling in Tourism (completion)		Number of participants who successfully complete the training	0	18 000	Q2	2025	Upskilling and Reskilling in Tourism: Completion of training sessions attested by a completion report with a detailed statistical annex of completed courses and successful completions by provider and qualification.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16931_Tourism Development	Milestone	Tourist Development project completion	1a. Completion Report by an independent engineer on works ratified by Ministry of Tourism. 1b. Completion report, including certification from beneficiaries on				Q4	2025	Tourism Development: (1a) Completion of specified upgrading works on tourist ports to encourage tourism and private investments. (1b) Completion of other tourism interventions to promote alternative forms of tourism and extend the season, including: - Green Development: improving destination management through the creation of local Destination Management office and associated Sustainable Tourism

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			investment completion						Observatories; development of mountain tourism covering energy efficient renovations of public infrastructure and installation of new renewable energy sources' capacity (wind); health and wellness tourism through thermal spring utilization; promotion of agro-tourism and gastronomy. - Blue Development: upgrade interventions to improve the governance, infrastructure and services offered in marinas, accessibility to beaches for older people and people with disabilities, and to promote the development of diving & underwater tourism.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16975_Upgrade Interventions for Regional Ports	Target	Upgrade Interventions for Regional Ports		Number of completed specified regional port improvements in islands and areas with developed tourism activity	0	28	Q4	2025	Completion of regional port improvements in islands and areas with developed tourism activity attested by a completion report by an independent engineer on works, ratified by Ministry of Shipping, including proofs of payment and results of audits of investments, and certification from beneficiaries on investment completion.

Group 27: Industry & Investments

The measures included within this group are:

- Amendment of the legal framework for the attraction of strategic investment (ID: 16593)
- Digitalization of economic Diplomacy Network (ID: 16599)
- Trade Facilitation (ID: 16592)
- New Industrial Parks (ID: 16634)

- Acceleration of smart manufacturing (ID: 16721)

The milestones and targets set for this group are described in the following table:

Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16593_Amendment of the legal framework for the attraction of strategic investment	Milestone	Strategic investments –legislative reform	Entry into force of legislative amendments				Q4	2021	<p>Entry into force of legislative amendments to reform the legislative framework for attracting strategic investments (Law 3894/2010 and Law 4608/2019), including through legal codification to create a uniform and cohesive framework and legal amendments to introduce a new strategic investments category ‘Emblematic Investment of Great Significance’.</p> <p>The reform of the strategic investment framework shall also introduce provisions to help accelerate the administrative procedure related to the approval and licensing of a Strategic Investment (i.e. to improve the fast-track procedure). New categories of strategic investments shall be introduced in the law on the basis of criteria conducive to innovation or technology diffusion, use of renewables and transition to low carbon economy, and/or to significantly promote the</p>

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									competitiveness of the Greek economy at international level.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16721_Acceleration of smart manufacturing	Milestone	Launch of calls for manufacturing	Launch of calls for manufacturing firms				Q1	2022	Launch of all competitive calls for proposals for the manufacturing sector in investments regarding digitalisation of production lines, automation and interconnection of supply chains, designing and production of smart products and services, implementation of smart manufacturing technologies in ultra-high-speed/ 5G network mechanical, laboratory & manufacturing equipment, quality control equipment, ICT & software equipment, software licenses, cloud licenses, implementation services for the new IT infrastructure and S/W, IT Security services, product design, intellectual property, patent and certification costs, with terms of reference including eligibility criteria that ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.
17 - 4.6. Modernise and improve resilience of key economic sectors -	Milestone	Launch of calls for Industrial parks	Launch of calls for proposals for industrial parks				Q1	2022	Launch of all competitive calls for proposals for the development of industrial parks for investments in a) infrastructure for the establishment of the new generation parks (including the acquisition of the land) with specific energy efficiency criteria for the construction of new buildings and energy

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16634_New Industrial Parks									<p>efficiency and demonstration projects in large enterprises and supporting measures, b) infrastructure to digitally transform and create smart industrial areas, c) solar renewable energy, d) water management and water resource conservation (investments shall have an average Infrastructure Leakage Index (ILI) of ≤ 1.5), e) waste water collection and treatment systems compliant with energy efficiency criteria, f) electromobility (development of refuelling networks for electric or hydrogen vehicles or refuelling points for biomethane for transport), g) projects for the rehabilitation of industrial sites and contaminated lands. Terms of reference including eligibility criteria shall ensure that the selected projects comply with the Do No Significant Harm Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p> <p>The construction of new buildings shall comply with a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives). In the case of construction of front-to-end waste water systems, the measure shall have net zero energy use, and in the case of the renewal of</p>
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									the front-to-end waste water systems, the measure shall lead to a decreased average energy use by at least 10% (solely by energy efficiency measures and not by material changes or changes in load). Investments in electromobility shall be in in line with Directive (EU) 2018/2001 and shall relate to alternative fuel for transport.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16634_New Industrial Parks	Milestone	Industrial Parks – legislative reform (primary law)	Publication of legislation in Official Journal				Q3	2022	Enactment of primary legislation to improve the regulatory framework for Industrial Business Parks, including addressing legal uncertainties, resolving governance issues, and providing effective incentives for the resolution of informal industrial concentrations
17 - 4.6. Modernise and improve resilience of key economic sectors - 16593_Amend ment of the legal framework for the attraction of strategic investment	Milestone	Strategic investments -selection of eligible projects	Selection of 'Emblematic Investments of Great Significance' eligible for financing				Q4	2023	The selection of the Emblematic Investments shall be made through the so-called "first in - first serve" procedure throughout the whole period from 2022 -2025. According to the selection procedure the potential investor shall file an application to Enterprise Greece to be included in the Emblematic Investments. An application may be filed to Enterprise Greece in 2023 and the investment shall be concluded until the Q4 2025. Evaluation by "Enterprise Greece" and final approval of the investment proposals shall be completed by the Interministerial Committee for Strategic Investments (characterisation of investment proposals as

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									<p>“Emblematic Investments of Great Significance”; Selection of eligible beneficiaries amongst the newly characterised “Emblematic Investments of Great Significance” via the approval decision of the Interministerial Committee for Strategic Investments (attested by publication of decision) for investment projects to promote innovation or technology diffusion, the green economy, use of renewables and transition to low carbon economy, and/or promotion of the competitiveness of the Greek economy at international level. Regarding the energy investments, eligible investments shall comprise of investments in a) infrastructure with specific energy criteria for the construction of new buildings, b) hybrid power generation projects from RES in unconnected islands, c) investments for the production of green hydrogen, d) systems for electric power storage produced from RES, and e) installations of offshore wind parks and offshore photovoltaic parks in compliance with the ‘Do no significant harm’ Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p> <p>The construction of new buildings shall comply with a Primary Energy Demand (PED)</p>
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									that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).
17 - 4.6. Modernise and improve resilience of key economic sectors - 16634_New Industrial Parks	Milestone	Industrial Parks – legislative reform (secondary legislation)	Entry into force of all required legislation				Q2	2023	Entry into force of all necessary secondary legislation to operationalise the new framework to improve the regulatory framework for Industrial Business Parks, including addressing legal uncertainties, resolving governance issues, and providing effective incentives for the resolution of informal industrial concentrations.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16592_Trade facilitation	Milestone	Implementation of trade facilitation actions	Report attesting to the completion of the simplification measures and introduction of systems, as provided in the Trade Facilitation Roadmap.				Q4	2023	Complete the implementation of measures outlined in the Trade Facilitation Roadmap [entry into force of secondary legislative act], in particular through actions to: <ul style="list-style-type: none"> - review and eliminate unjustifiably burdensome process steps and certificates required for the trade of goods, in particular exports, both at customs and pre-customs level - introduce a risk-assessment approach to make ex-ante controls more targeted, and improve coordination between involved services in the execution of joint controls on exports - build new procedures into 'Single Window' system according to international best practices, - establish a monitoring system to ensure proper and efficient implementation of controls related to cross-border trade

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									(provide circulars issued on new procedures and control arrangements)
17 - 4.6. Modernise and improve resilience of key economic sectors - 16599_Digitilization of Economic Diplomacy Network & Exporters Training Program	Milestone	Digitalisation of Economic Diplomacy Network – implementation of all actions	Report testifying implementation of the actions to digitalise the Economic Diplomacy Network (i.e. implementation of Single Window and exporters' Helpdesk, publication of databases and digital communication channels with investors and exporters, digitalisation of internal processes in Enterprise Greece and launch of an Ombudsman service) necessary to complete the digitalisation of the Economic				Q2	2024	Complete the digitalisation of Economic Diplomacy Network, including through: - operationalisation of the “Single Window” exports Gate - “Helpdesk” services - publication of databases on international market and exports procedures - launch of an Ombudsman service to assist exporters overcome obstacles during the exports process - digitalisation of Enterprise Greece’s internal processes and creation of a digital vault for the investment portfolio of Enterprise Greece and of strategic investors - creation of new digital channels of communication with exporters and potential investors

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			Diplomacy Network.						
17 - 4.6. Modernise and improve resilience of key economic sectors - 16634_New Industrial Parks	Milestone	Industrial parks– implementation of investments	Provide results of audits of construction works, certification from beneficiaries on investment completion and proof of payment to attest to the implementation of selected investment projects in industrial parks.				Q4	2025	Completion of construction of all investment projects selected under the competitive calls for proposals.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16593_Amendment of the legal framework for the attraction of strategic investment	Milestone	Strategic investments – implementation of investments	Provide results of audits of construction works, certification from beneficiaries on investment completion and proof of payment to attest to the implementation of selected investment projects in				Q4	2025	Completion of construction of all investment projects selected in line with the approval decision of the Interministerial Committee for Strategic Investments.

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			'Emblematic Investments of Great Significance'.						
17 - 4.6. Modernise and improve resilience of key economic sectors - 16721_Acceleration of smart manufacturing	Milestone	Manufacturing, sector – implementation of investments	Provide results of audits of intervention works, certification from beneficiaries on investment completion and proof of payment to attest to the implementation of selected investment projects in manufacturing sector.				Q4	2025	Completion of construction of all investment projects selected under the competitive calls for proposals.

Group 28: Agriculture

- Economic transformation on the Agricultural Sector (ID: 16626)
- Digital Transformation of the Agri-Food Sector (ID: 16653)
- Proposals for actions in the Aquaculture Sector (ID: 16584)
- Investments in the national irrigation network through PPP schemes (ID: 16285)

The milestones and targets set for this group are described in the following table:

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Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
				Unit of measure	Baseline	Goal	Quarter	Year	
17 - 4.6. Modernise and improve resilience of key economic sectors - 16626_Economic transformation on the Agricultural Sector	Milestone	Economic transformation of agriculture: Launching of the programme	Contract with implementing partner signed				Q1	2022	<p>Launch of the Calls for the Economic Transformation of the Agricultural sector.: Competitive calls for proposals with terms of reference including eligibility criteria that ensure that the selected projects comply with the 'Do no significant harm' Technical Guidance (2021/C58/01) through the use of an exclusion list and the requirement of compliance with the relevant EU and national environmental legislation.</p> <p>The competitive calls shall include the following actions: actions related to energy upgrade of production units, buildings and mechanical equipment with low energy consumption, energy upgrade of tourism facilities (buildings), environmentally friendly means of transportation (electric cars, bicycles, etc.), support for environmentally friendly production processes and resource efficiency in SMEs, renewable energy (solar), climate change adaptation and prevention measures and management of climate</p>

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									related risks, biodiversity protection, and natural heritage and resources.
17 - 4.6. Modernise and improve resilience of key economic sectors - 16653_Digital Transformation of the Agri-Food Sector	Milestone	Launch of the call for the digital transformation of the agri-food sector	Launch of the call				Q3	2022	Launch of the call for the digital transformation project for the development of a large-scale open digital agricultural infrastructure and a cognitive agriculture environment for the production process and management of natural resources.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16285_Investments in the national irrigation network through PPP schemes	Milestone	Irrigation projects contracts awarded	Award of contracts				Q4	2023	<p>Award of PPP contracts for the construction and operation of the listed 18 irrigation projects. For each sub-investment, full compliance with the requirements of EU law, including the Water Framework Directive, shall be ensured before, during and after the commencement of any construction works. In particular, when publishing the draft environmental impact assessment for public consultation, it should be framed with a justification of the purpose of the investment as compared to alternatives, both in terms of the goal (extent of irrigated land vs sustainable rural regeneration) and the means (reducing water demand and nature-based solutions).</p> <p>Any investment in dams shall respect the following criteria:</p>

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									<p>(i) the life-cycle GHG emissions from generation of electricity from the hydropower, are lower than 100 g CO₂e/kWh; or the power density of the electricity generation facility is above 5W/m² and;</p> <p>(ii) all technically feasible and ecologically relevant mitigation measures have been or shall be implemented to reduce adverse impacts on water and relevant habitats and species, also taking into account the projected future impacts from climate change and the implementation of adaptation measures, and;</p> <p>(iii) for a newly built dam, ensure that it shall not result in the deterioration nor compromise the achievement of good status of the relevant and connected water bodies; and</p> <p>(iv) other possible alternatives to building a dam have been explored and the authorities provide the reasons why, if applicable, such alternatives were not feasible.</p>
17 - 4.6. Modernise and improve resilience of key economic sectors - 16653_Digital	Milestone	Completion of the digital transformation of agriculture project	Completion report. Outward-looking Agriculture digital services				Q2	2025	<p>Completion of the two components:</p> <ol style="list-style-type: none"> 1. Digital Transformation of the Agricultural Sector, which shall include the development of a large-scale open digital agricultural infrastructure, with cloud (edge

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Transformation of the Agri-Food Sector			incorporated in the Easy Agro Expo platform.						<p>computing) infrastructure and large-scale processing capabilities of earth observation (satellite and aerial/drone) data and multidisciplinary technologies;</p> <p>2. Outward-looking Agriculture, which shall include improvement of the Easy Agro Expo platform for the issuing of export certificates, development of a system for the management of import and intra-community trade data, development of a business Intelligence system for imports and exports and upgrading of the product-promotion portal Greek farms.</p>
17 - 4.6. Modernise and improve resilience of key economic sectors - 16626_Economic transformation on the Agricultural Sector	Milestone	Completion of economic transformation of agriculture	Project closure with issuance of audit certificates provided by beneficiaries approved by Ministry of Rural Development.				Q4	2025	<p>Economic transformation on the Agricultural Sector: Financial Closure of all components:</p> <ol style="list-style-type: none"> 1. Innovation and green transition on processing agricultural products 2. Modernisation of primary sector 3. Green rural tourism 4. Cultivation restructuring 5. Animal genetic improvement
17 - 4.6. Modernise and improve resilience of key economic sectors - 16584_Proposals	Milestone	Aqua-culture completed	Completion report.				Q4	2025	<p>Aquaculture: All actions completed, which shall include upgrade of production units, equipment, waste management equipment, new technologies-ICT, promotion of new</p>

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for actions in the Aquaculture Sector									products, transfer of know-how, genetic material bank, expert advisory.
4 - 1.4. Sustainable use of resources, climate resilience and environmental protection - 16285_ Investments in the national irrigation network through PPP schemes	Milestone	Irrigation completion	Completion of project as per certificate of independent engineer approved by the Ministry of Rural Development.				Q4	2025	Irrigation: All 18 projects completed and operational.

Technical Assistance

The milestone for the Technical Assistance is the establishment of the Audit and Control System in Q3 2021. The qualitative indicator is for the Audit and Control System completed and established.

Related Measure (Reform Investment) or Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
			Unit of measure	Baseline	Goal	Quarter	Year	

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19 - 16968_Technical Assistance	Milestone	EDEL's legal mandate and setting up the management, control and audit systems	EDEL's legal mandate in force and the Management, Control and Audit Systems established				Q3	2021	Entry into force of EDEL's legal mandate and establishment of the Audit and Control System that shall (a) ensure the collection of data and monitoring of the achievement of milestones and targets; (b) allow for the preparation of management declarations and the audit summary as well as payment claims and (c) establish the necessary procedures to collect and store data on beneficiaries, contractors, subcontractors, and beneficial owners in accordance with Article 22 of Regulation (EU) 2021/241, before the first payment request is made. A dedicated audit report on the system set up shall be undertaken. In case that the report identifies any weaknesses, the audit report shall recommend corrective actions.
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RRP Loan Facility

The milestones and targets set for the loans are described in the following table:

Related Measure (Reform or	Milestone / Target	Name	Qualitative indicators	Quantitative indicators (for targets)	Indicative timeline for completion	Description of each milestone and target
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Investment)			(for milestone s)	Unit of measure	Baseline	Goal	Quarter	Year	
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Milestone	Operational agreements with IFIs	Operational agreement with one International Financial Institution signed				Q3	2021	<p>Signature of the operational agreements between the Ministry of Finance, and at least one International Financial Institution including:</p> <p>a) Selection criteria for compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) of supported activities, requiring the use of sustainability proofing, an exclusion list, and mandatory legal compliance checks with the relevant EU and national environmental legislation by an independent auditor.</p> <p>b) Commitment to invest at least 38.5% of the funds to support the climate transition and 20.8% of the funds to support the digital transition, using the methodology in Annexes VI and VII of the RRF Regulation.</p>
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Milestone	Launch of commercial banks call	Launch of call				Q3	2021	<p>Launch of call for the selection of commercial banks including:</p> <p>a) Selection criteria for compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) of supported activities, requiring the use of sustainability proofing, an exclusion list, and mandatory legal compliance checks with the relevant EU and national environmental legislation by an independent auditor.</p> <p>b) Commitment to invest at least 38.5% of the funds to support the climate transition and 20.8% of the funds to support the digital transition, using the methodology in Annexes VI and VII of the RRF Regulation.</p>

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4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Milestone	Agreement for equity platform	Mandate agreement signed				Q1	2022	Signature of the mandate agreement between the Ministry of Finance and the Hellenic Development Bank for Investments, that shall manage the Mezzanine Fund of Funds and the Innovate Now Equifund. The mandate agreement shall include the selection criteria for compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) of supported companies, requiring the use of sustainability proofing, an exclusion list, and mandatory legal compliance checks with the relevant EU and national environmental legislation by an independent auditor.
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Milestone	InvestEU contribution agreement	Contribution Agreement signed				Q1	2022	Signature of the InvestEU Contribution Agreement between the Ministry of Finance and the European Commission, including: a) the selection criteria for compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) of supported companies, requiring the use of sustainability proofing, an exclusion list, and mandatory legal compliance checks with the relevant EU and national environmental legislation by an independent auditor. b) Commitment to invest at least 38.5% of the funds to support the climate transition and 20.8% of the funds to support the digital transition, using the methodology in Annexes VI and VII of the RRF Regulation.
4.7. Improve competitiveness	Target	EUR 586.4 million		Percentage of	0	5	Q4	2022	EUR 586.4 million (including management fees) of RRF loan facility funds related to International Financial Institutions and commercial banks have been signed with the final

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ness and promote private investments and exports - 16980_RRP Loan Facility		of financial institutions funds signed with final beneficiaries		funds signed					beneficiaries in accordance with the mandate defined in the milestone and following ex-ante verification by independent auditors of compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) and with the 38.5% climate target and 20.8% digital target.
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Target	EUR 3518.4 million of financial institutions funds signed with final beneficiaries		Percentage of funds signed	5	30	Q4	2023	EUR 3518.4 million (including management fees) of RRF loan facility funds related to International Financial Institutions and commercial banks have been signed with the final beneficiaries in accordance with the mandate defined in the milestone and following ex-ante verification by independent auditors of compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) and with the 38.5% climate target and 20.8% digital target.
4.7. Improve competitiveness and promote	Target	EUR 5864 million of financial		Percentage of funds signed	30	50	Q4	2024	EUR 5864 million (including management fees) of RRF loan facility funds related to International Financial Institutions and commercial banks have been signed with the final beneficiaries in accordance with the mandate defined in the milestone and following ex-ante verification by independent

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private investment s and exports - 16980_RRP Loan Facility		al institut ions funds signed with final benefic iaries							auditors of compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) and with the 38.5% climate target and 20.8% digital target.
4.7. Improve competitiv eness and promote private investment s and exports - 16980_RRP Loan Facility	Target	EUR 9382.4 million of financi al institut ions funds signed with final benefic iaries		Percenta ge of funds signed	50	80	Q4	2025	EUR 9382.4 million (including management fees) of RRF loan facility funds related to International Financial Institutions and commercial banks have been signed with the final beneficiaries in accordance with the mandate defined in the milestone and following ex-ante verification by independent auditors of compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) and with the 38.5% climate target and 20.8% digital target.
4.7. Improve competitiv eness and promote private investment	Target	EUR 11728 million of financi al institut		Percenta ge of funds signed	80	100	Q2	2026	EUR 11728 million (including management fees) of RRF loan facility funds related to International Financial Institutions and commercial banks have been signed with the final beneficiaries in accordance with the mandate defined in the milestone and following ex-ante verification by independent auditors of compliance with the Do No Significant Harm

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s and exports - 16980_RRP Loan Facility		ions funds signed with final beneficiaries							Technical Guidance (2021/C58/01) and with the 38.5% climate target and 20.8% digital target.
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP Loan Facility	Target	Investment of 100% of equity support		Percentage of equity support invested	0	100	Q2	2026	Investment of 100% of the equity support, in accordance with the mandate agreement defined in the milestone, which shall include the selection criteria for compliance with the Do No Significant Harm Technical Guidance (2021/C58/01) of supported companies, requiring the use of sustainability proofing, an exclusion list, and mandatory legal compliance checks with the relevant EU and national environmental legislation by an independent auditor.
4.7. Improve competitiveness and promote private investments and exports - 16980_RRP	Target	InvestEU approval of operations		Percentage of investment operations approved	0	100	Q2	2026	InvestEU Investment Committee approves investment operations amounting to 100% of the overall amount of financing targeted (or investment mobilised) in compliance with the 38.5% climate target and 20.8% digital target.

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Loan Facility									
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Disbursement requests

With regards to the disbursements, following the pre-financing request, the approach to be followed allows for equal disbursements to be released.

For 2021, the disbursement is requested in line with the completion of several reforms and investments and it is anticipated the achievement of milestones to be completed within Q3 of 2021.

The tables below present the distribution of the disbursement in the period of 2021-25.

	Grants (9 equal instalments) (€ mil.)	Loans (6 equal instalments) (€ mil.)
Prepayment (13%)	2.310,61	1.654,58
Q3'21	1.718,14	1.845,49
Q2'22	1.718,14	
Q4'22	1.718,14	1.845,49
Q2'23	1.718,14	
Q4'23	1.718,14	1.845,49
Q2'24	1.718,14	
Q4'24	1.718,14	1.845,49
Q2'25	1.718,14	
Q4'25	1.718,14	1.845,49
Q3'26 (August)		1.845,49
Total	17.773,90	12.727,54

Consistency with other initiatives

Overview

The strategic objectives and priorities of the Recovery and Resilience Plan, and the reforms and investments proposed in each of its Components, are aligned to the goals, priorities and policy and reform recommendations of other plans and initiatives, at the national and the EU-level, operating as complements and contributing jointly to the attainment of broader economic and societal goals.

Consistency with the National Energy and Climate Plan

The Greek National Energy and Climate Plan (NECP or “ESEK”, Government Gazette B' 4893/31-12-2019) is the Greek government’s strategic plan for climate and energy issues, and a detailed roadmap regarding the attainment of specific energy and climate objectives by 2030, taking into account the **European Climate Neutrality Strategy** (Green Agreement, COM (2019) 640/ 11-12-2019) and the **UN Sustainable Development Goals**.

Through the NECP, Greece has committed to specific energy climate targets for 2030, including:

- A sharp decrease in greenhouse gas emissions by more than 42% compared to 1990 emission levels, and by more than 56% compared to 2005 emission levels.
- A significant improvement in energy efficiency by 38%, compared to the 2007 predictions.
- An increase in the share of renewable energy sources (RES) in the energy mix, with a minimum share of 35% in gross final energy consumption by 2030.

The energy and climate objectives set in the context of the NECP for 2030 are in alignment – and even more ambitious – with the respective **EU targets for 2030**, while at the same time they also constitute ‘intermediate’ objectives that enable the transition to a climate neutral economy by 2050. To achieve these objectives, the NECP introduces a comprehensive and cohesive package of policy priorities and measures, in order for the energy transition to unfold in the most viable – both economically and environmentally – manner. Moreover, the NECP provides that the energy transition will be coupled with strengthening the competitiveness of the national economy and its sustainable development, through mobilisation of investments and optimal use of national and European financing mechanisms.

The Recovery and Resilience Plan aims at facilitating this necessary transition in Greece, through incorporating the strategic priorities and the specific targets of the NECP, as well as the related recommendations of the European Commission on how the RRF can be leveraged for attaining the climate and energy targets for 2030 and beyond. The key objectives of the Greek Recovery and Resilience Plan, and the reforms and investments designed to achieve them, are in alignment with the objectives and policy priorities and measures included in the NECP, with the former being expected to significantly advance and accelerate the latter.

Among the overarching areas of priority of the Recovery and Resilience Plan, the components that are linked to the **“Green Transition”** priority, reflect the targets, the objectives and the policy recommendations of the NECP.

In particular, the **Component 1.1 – Power Up** promotes the transition towards a low-carbon energy system, with a batch of investments and reforms that aim to reduce greenhouse gas emissions, to increase the RES share in final energy consumption and improve energy efficiency.

The Component includes reforms that modernize and accelerate the regulatory framework for developing new RES plants for electricity generation, in attainment of the NECP target for 2030. In the same direction, investments in upgrading and expanding the electricity network, and in enhancing its resilience against natural risks, are also critical for ensuring the stability and efficiency of the energy system. At the same time, investments in electricity interconnections of islands with the mainland power grid are crucial for progressively decommissioning the costly and polluting oil-fired units currently operating, for significantly reducing the CO² emissions and the dependence from fossil fuels, and for enhancing stability in the energy system, security of energy supply, and RES penetration.

Finally, this Component promotes the national target for total phase-out of lignite-fired electricity production by 2028, a key step towards decarbonisation of the economy and significant reduction of GHG emissions. The frontloaded phase-out of lignite-fired power generation creates multiple economic and social challenges for the affected areas (Western Macedonia and Megalopolis). The Component supports the process of delignitisation, through investments targeted at the smooth energy transition and socio-economic and environmental rehabilitation, complementing in that way the policies and measures included in the NECP and the Just Transition Plan and augmenting the overall positive impact.

The **Component 1.2 – Renovate** promotes climate mitigation and adaptation for the urban and built environment of Greece, in alignment with the objectives of reducing CO² emissions and for improving energy efficiency. The domestic building stock in Greece is rather aged, with many residential and commercial buildings constructed before 1980, and constitutes a source of energy (accounting for 41% of total final energy consumption) and cost for the owners, also increasing energy poverty. The Component promotes a “Renovation Wave”, through dedicated investments, aiming at the improvement of energy efficiency and of environmental performance of thousands of buildings and/or building units on an annual basis, in line with the NECP energy efficiency and emissions reduction targets, as well as with the Long-Term Renovation Strategy. Extensive energy renovation of the building stock will also contribute to reducing energy cost and alleviating energy poverty, while they will also mobilize private capital investments and boost local development and job creation in multiple related sectors and professions – an aspect particularly important for post-COVID-19 economic recovery.

This component also includes reforms and investments that promote sustainable development in cities and urban areas. Reforms in urban and land planning will enhance legal certainty, attracting in that way local and foreign investments and accelerating growth. In parallel, urban planning will incorporate environmental and climate impacts (such as increase of mobility due to the urban sprawl, floods and fires due to shrinkage of the natural ecosystems, biodiversity loss and coastal erosion) and mitigation actions, increasing in that way the resilience of cities.

At the same time, the promotion of urban renewal projects can revitalize entire urban/suburban areas, through recovering public space, creating more green areas, improving the functionality of the urban web and the quality of life for citizens and visitors, and boosting local socio-economic development and the creation of new employment opportunities.

More broadly, this Component operates in alignment with the objectives and targets of the NECP, as well as with the National Climate Change Adaptation Strategy and the recent legislative reform

in urban and spatial planning (Law 4759/2020 - Official Government Gazette A' 245/09-12-2020), balancing growth and investment attraction with climate change mitigation and social cohesion.

The **Component 1.3. – Recharge and Refuel** concerns the transition to a green and sustainable transport system in Greece, in alignment with the NECP objectives and the EU Green Deal strategy towards climate neutrality by 2050, including the intermediate 2030 targets. The transport sector is responsible for 21% of the national GHG emissions (2020) and for 41% of the final consumption of energy (2017), while it is also responsible for air, water, soil and noise pollution. Consequently, the promotion of e-mobility and sustainable transport is essential for achieving the NECP targets regarding the decrease in CO² emissions, the decrease of dependency on oil and fossil fuels, and the increase of RES penetration in the energy mix. Particularly, the NECP has set specific targets for annual adoption of passenger electric vehicles in the country's vehicle fleet by 2030, resulting in a total number of 330,000 EVs on the road within the next 10 years, while investments in e-mobility have the potential to reduce GHG emissions by 5% during the period 2021-2030. These objectives were incorporated in the recent e-mobility legislative reform (Law 4710/2020 – Official Government Gazette A' 142/23-07-2020).

This Component includes reforms that support and facilitate the “electrification” of the transport system and the development of the necessary charging infrastructure for EVs across the country, considering that the availability of publicly accessible charging points is an important incentive for drivers to adopt EVs. Furthermore, it advances investments in the construction and installation of charging points in cities and urban areas, and other points of interest such as airports, motorways, ports and private parking areas with public access (e.g. supermarkets, malls). Such investments are highly consistent with the NECP goals, as well as with the priorities detailed in the National Air Pollution Control Program and operate synergistically towards the alleviation of environmental pollution and the improvement of living standards.

Moreover, this Component includes investments in promoting “green” technologies in transports, and in manufacturing and other activities more broadly.

The **Component 1.4. – Sustainable use of resources, climate resilience and environmental protection** promotes green transition, through enhancing the protection and restoration of the natural environment, accelerating the transition to a circular economy, and effectively managing adaptation to and mitigation of climate change. Its objectives are directly linked with the NECP and the EU Green Deal strategy, as well as with the national strategies for Climate Change, Circular Economy, Biodiversity and Forests, thus establishing a comprehensive and coherent framework for sustainable development.

This Component includes investments in upgrading the national irrigation networks to optimize the use of water and eliminate water losses, contributing in that way to the protection of a critical natural resource, and to the advancement of public and ecosystem health. In the same direction, the Component promotes the shift towards sustainable agricultural activities that would reduce their environmental impact, along with better preserving the water resources, reducing irrigation costs and energy consumption, and fostering the primary sector's competitiveness. This set of investments contribute to reduce the environmental impact of the primary sector, and clearly serve the NECP target for reducing GHG emissions, as well as the respective targets of the National Climate Change Adaptation Strategy.

This Component also includes investments on environmental protection and on improvement of resilience towards climate change and natural risks. Investments related to forest management and reforestation, biodiversity protection and civil protection aid the natural ecosystems to adapt

to climate change and cope with natural risks (drought, fire, flood, soil loss etc.), and in turn these ecosystems are expected to mitigate the impact of climate change and moderate temperatures. In that way, the proposed investments are fully aligned with the EU Green Deal Strategy (including the intermediate 2030 targets) and the NECP target on GHG emissions reduction, as well as with the priorities and objectives of National Strategies for Climate Change, Forests and Biodiversity.

In addition, this Component includes reforms and investments that modernize the management of solid waste, enhance recycling and accelerate the transition to a circular economy. Through the combination of modern waste management techniques and increased prevention, recycling and reuse of materials, the environmental impact of waste and the emissions of related activities are significantly reduced. Consequently, this specific Component complements and advances the NECP target for reducing GHG emissions, as well as the respective objectives set in the National Climate Change Adaptation and Circular Economy Strategies and the National Plan for Waste Management.

Apart from the “Green Transition”-related Components, the rest of the Recovery and Resilience Plan is also consistent and aligned to the strategic objectives, targets and policy priorities of the NECP. Through specific reforms and investments, the Plan contributes holistically to the attainment of the NECP goals for reducing GHG emissions, improving energy efficiency and increasing the RES share in the energy mix by 2030, promoting at the same time socio-economic development, with attraction of investments, creation of new employment positions, and enhancement of the competitiveness and innovativeness of the national economy.

Consistency with the National and Territorial Just Transition Plans

Through the National Energy and Climate Plan, the Greek Government committed to **withdraw all lignite-fired power generation plants by 2023** – with the exception of the “Ptolemais V” plant which is expected to continue operating until 2028. This commitment is linked to the strategic objectives and policy priorities of the NECP for attaining climate change mitigation and facilitating the transition towards “green” energy and a climate-neutral economy by 2050, in line with the EU Green Deal Strategy.

The frontloaded phase-out of lignite-fired power generation creates multiple economic and social challenges for the affected areas, **Western Macedonia and Megalopolis**, and the need for a new, balanced and sustainable development model. In order to ensure the economically and socially just transition of these areas, the Greek Government developed and adopted the **National Just Transition Plan**, a comprehensive strategic plan with a mixture of interventions and measures for the economic and productive diversification of coal-affected areas, set in the wider context of the NECP, the EU Green Deal Strategy and the Energy Roadmap for 2050.

The National Just Transition Plan constitutes input for the preparation of the **Territorial Just Development Plans** for Western Macedonia and the Municipality of Megalopolis, in accordance with the requirements of the Proposal for a Regulation establishing the **Just Transition Fund**. At the same time, considering the prioritisation of electricity interconnections of the islands, and the gradual decommissioning of oil-fired power plants, a Territorial Plan is prepared specifically for the islands and their transition to climate neutrality.

The Recovery and Resilience Plan is aligned with the objectives and priorities of the National and Territorial Just Transition Plans, and supports through specific reforms and investments the economic and social transition of the coal-dependent areas.

The Component 1.1, related to the **“Green Transition”** priority, includes investments for the restoration, rehabilitation and upgrading of lignite zones in Western Macedonia and Megalopolis, in order to accommodate new uses according to the five growth pillars detailed in the Just Transition Plan: (i) Clean Energy, (ii) smart agricultural production, (iii) Sustainable Tourism, (iv) Industry, handicrafts and trade, and (v) technology and education. These works are expected to create new jobs for the local workforce, as well as a range of novel growth opportunities. Also directly linked to the objectives and priorities of the National and Territorial Just Transition Plans are reforms and investments of Component 1.1 aiming at increasing the RES share in the energy mix and at upgrading, expanding the electricity distribution networks, while investments in electrical interconnections of the Cycladic Islands are linked to the targets for decarbonizing the islands and shifting towards “cleaner” energy forms of the dedicated Territorial Just Transition Plans.

Similarly, Components 1.2 and 1.3, with investments targeted at improving energy efficiency in the domestic building stock and at promoting e-mobility and the shift from oil to clean fuels (e.g. green hydrogen) in the domestic transport sector, also are aligned with the Just Transition Plans, facilitating the energy transition and socio-economic revitalisation of the coal-affected areas and contribute to attraction of investments and creation of new jobs.

Finally, the Component 1.4 proposes investments in environmental protection and preservation, in enhancing climate change adaptation and resilience, in modernizing waste management and in adopting circular economy principles in production and consumption patterns. These investments are directly linked to the priorities set in the Just Transition Plans for environmental rehabilitation of the coal-affected areas, for better protection and preservation of forest lands and biodiversity, for sustainable use of natural resources, for stronger adaptation to climate change and effective management of natural risks, and for fostering productive diversification and a sustainable growth model in Western Macedonia and Megalopolis.

Components 2.1 and 2.3, related to the **“Digital Transition”** priority of the Recovery and Resilience Plan, promote the expansion of broadband networks to ensure fast and widespread connectivity, the transition to new generation networks, and the digitalisation and technological upgrading of enterprises – especially the small and medium-sized ones (SMEs). Such investments are directly linked with the priorities of the Just Transition Plan, considering that the development of digital infrastructure and networks in the coal-affected areas are necessary conditions for their socio-economic revitalisation.

Similarly, Component 2.2 advances the digitalisation and modernisation of the public sector, and the provision of high-quality services to citizens and businesses, another critical factor for ensuring the just and viable transition of the coal-affected areas. More broadly, through dedicated investments and reforms, the Recovery and Resilience Plan advances digital and technological transformation in the economy and society, which aligns and complements the priorities of the Just Transition Plans, as multiple opportunities can be generated for investment and entrepreneurial activities that can accelerate the transition to a diversified productive model, fostering local growth and employment creation.

Components 3.1 and 3.2 of the Recovery and Resilience Plan, related to the **“Employment, skills and social cohesion”** priority, aim at boosting job creation, improving job quality and labour market inclusion, strengthening economic and social resilience, as well as at increasing long-term employment and productivity through digitalizing education at all levels, modernizing vocational education and training, and upgrading the national reskilling and upskilling system. The objectives of both Components are aligned to the key priorities of the Just Transition Plans, and the reforms

and investments of the former complement and facilitate the latter in achieving new job creation, enhancement of skills and potential of local labour force in Western Macedonia and Megalopolis, and more broadly ensuring the just economic and social transition and the longer-term prospects of the coal-affected areas.

At the same time, Components 3.3 and 3.4 prioritize reforms and investments for increasing the efficiency, productivity, accessibility and sustainability of the healthcare system, and improving social services and the provision of equal opportunities for all citizens. Both Components are in line with the priorities of the National and Territorial Just Transition Plans, as the improvement in healthcare and social services and the promotion of social inclusion are essential for advancing living standards and social cohesion in coal-affected areas.

Also consistent and complementary to the priorities and policy interventions of the National and Territorial Just Transition Plans, are the Components of the Recovery and Resilience Plan that are related to the “Private Investments and Institutional Transformation” priority. Components 4.1, 4.2, 4.3 and 4.4 promote reforms and investments in the tax system and the public administration, the justice system and the financial markets, aiming at improving the business environment and at providing strong incentives for private investments and creation of new ventures. As a result, these Components are strongly linked to the objectives of the National and Territorial Just Transition Plans, where the attraction and fast-tracking of investments highly important in order to ensure local socio-economic development, new job creation, and the long-term prospects of the coal-affected areas.

On the other hand, Components 4.5, 4.6 and 4.7 focus on strengthening the relationship between enterprises and research and innovation, on enhancing the resilience and potential of key sectors - namely tourism, culture, manufacturing, agriculture and infrastructure – and on increasing the productivity, competitiveness and export orientation of enterprises in general. The reforms and investments included in these Components operate in conjunction with the objectives of the Just Transition Plans, contributing to the necessary economic and productive diversification of the coal-affected areas (Western Macedonia and Megalopolis), and the shift towards a sustainable growth model that would ensure the long-term prospects of the areas.

Consistency with the Growth Plan for the Greek Economy (Pissarides’ Committee Report)

The Growth Plan for the Greek Economy, drafted by the independent committee formed by the Greek Government and headed by Professor Christopher Pissarides, constitutes a comprehensive plan for the development of the national economy. The Intermediate (August 2020) and Final (November 2020) Reports of the Pissarides’ Committee provide in-depth analysis of domestic and global economic trends, and detailed recommendations on reforms and policies that can foster growth, competitiveness and employment, while at the same time ensuring social cohesion and improved living standards for all citizens.

The Greek Recovery and Resilience Plan is anchored to the objectives and priorities set out in the Growth Plan for the Greek Economy. Moreover, the Components of the Recovery and Resilience Plan, as well as the reforms and investments included in each Component, are fully aligned with the policy and reform recommendations of the Pissarides’ Committee Report, and aim at facilitating and fast-tracking them.

The Components regarding the “**Green Transition**” incorporate the priorities of the Pissarides’ Committee Report for paving the way towards climate neutrality by 2050, and for meeting the

NECP and EU targets for 2030. The modernisation of the energy system, the gradual phase-out from fossil fuels, the shift towards RES and “clean” energy, and the upgrading and expansion of electricity distribution networks are priorities facilitated by reforms and investments included in Component 1.1. The needs for renovating the existing building stock and for improving energy efficiency, for modernizing urban and spatial planning and facilitating the renewal of urban areas, and for promoting e-mobility and sustainable transportation, which are addressed via reforms and investments of Components 1.2 and 1.3, are highlighted in the Pissarides’ Committee Report, and also linked to NECP and EU targets for 2030.

Finally, the Pissarides’ Committee Report acknowledges the importance of better protection and restoration of the natural environment and biodiversity, of optimal use of the natural resources (including water), of enhancing the resilience of ecosystems towards climate change and natural risks, and of promoting sustainable waste management and transition towards circular economy. These objectives and priorities are reflected in the reforms and investments of Component 1.4 of the Recovery and Resiliency Plan and addressed by the latter, complementing at the same time related objectives and recommendations of the NECP and of the National Strategies for Climate Change Adaptation, Circular Economy, Forests and Biodiversity.

The Components regarding the **“Digital Transition”** reflect and respond to the argumentation and recommendations of the Pissarides’ Committee Report for digitalizing and modernizing the public and private sectors in Greece, as well as the respective priorities and recommendations of the Digital Transformation Strategy. The importance of increased connectivity to very-high-capacity networks and of installation and functioning of new generation networks, thoroughly analyzed in the Report, is addressed via the dedicated reforms and investments of the Component 2.1.

The same holds for the modernisation and digital transformation of the public administration and the provision of enhanced, qualitative public services to citizens and enterprises, which are stressed in the Pissarides’ Committee Report and addressed and facilitated through the reforms and targeted investments promoted by the Component 2.2 of the Recovery and Resilience Plan.

Moreover, the Component 2.3 focuses and promotes investments on the technological and digital transformation of the private sector, and on improving the technology readiness and digital skills of enterprises, which are also prioritized in the Pissarides’ Committee Report as drivers of dynamic growth and enhanced productivity and competitiveness.

The Components related to the **“Employment, skills and social cohesion”** priority internalize and respond to the analysis and recommendations of the Pissarides’ Committee Report on creation of new employment positions, increase in productivity and participation in the labour market, upgrading of the national vocational education and training and skill formation systems, and modernization and improvement of accessibility to healthcare and social services.

In particular, the Component 3.1 of the Recovery and Resilience Plan reflects the priorities of the Pissarides’ Committee Report on boosting job creation, improving job quality and labour market inclusion, strengthening economic and social resilience and modernizing social security, and addresses them through targeted reforms and investments.

The Component 3.2 aims at increasing long-term employment and labour productivity, through upgrading the national skill formation (upskilling/reskilling) and Vocational Education and Training (VET) systems and strengthening the performance of the educational system in research and innovation. These objectives and policies also incorporate the priorities and recommendations of the Pissarides’ Committee Report.

Similarly, Components 3.3 and 3.4 promote reforms and investments in modernizing the health-care system and enhancing its efficiency, accessibility, resilience and financial sustainability, and in improving and broadening access to social care services (for example, in early childhood care), respectively. Both Components are in line the Report of the Pissarides' Committee and operate as complements to the latter's policy and reform recommendations.

Finally, the Components related to the **"Private Investments and Institutional Transformation"** of the Recovery and Resilience Plan incorporate the recommendations of the Pissarides' Committee Report for boosting growth through reforms in the tax and public administration, and the justice system and financial systems, as well as through supporting the Research & Development (R&D) activities and export orientation of the private sector.

In particular, Components 4.1, 4.2, 4.3 and 4.4 reflect and respond to the priorities highlighted in the Pissarides' Committee Report for strengthening the public administration and tax-collection services, improving the efficiency of the justice system, making the financial and capital markets operate more efficiently, and addressing issues related to private debt management. Through coherent sets of reforms and investments, these Components aim to address the priorities and suggestions of the Pissarides' Committee Report and improve performance in these domains.

Similarly, Components 4.5, 4.6 and 4.7 include reforms and investments aiming at strengthening the links between entrepreneurship and research and innovation, at incentivizing enterprises for engaging in R&D investments and activities, and at enhancing the productivity, competitiveness and extroversion of the private sector – including also key sectors for the national economy, such as tourism, culture, manufacturing, agriculture and infrastructure. These Components, and the propose reforms and investments, also incorporate the analyses and priorities of the Pissarides' Committee Report, and complement the Report's recommendations in order to enhance growth, competitiveness, innovativeness and extroversion of the national economy.

Consistency with the Partnership Agreement for the Development Framework

The Greek Reform and Resilience Plan is designed to operate in consistency, complementarity and synergy with the new Greek **Partnership Agreement for the Development Framework for the 2021-2027 Programming Period**, and its sectoral and regional programs. On the one hand, the Plan incorporates the strategic directions, objectives and priorities of the new Partnership Agreement, while on the other hand it draws from and builds on the outcomes and the experience from implementing the Partnership Agreement for the previous period (2014 – 2020). It also draws from and builds on the outcomes from implementing the Along with the Common Agricultural Policy, the three instruments contribute the bulk of investment funds to be deployed in the Greek Economy in the following nine years.

The new Partnership Agreement for the 2021 – 2027 Programming Period is structured around 5 (five) key **Policy Objectives (PO)** and a **Special Objective** linked to the Just Transition Fund, which are highly consistent with the strategic priorities, the goals and the respective Components of the Greek Recovery and Resilience Plan.

In more detail, the **Policy Objective 1 – "A smarter Europe through the promotion of innovative and smart economic transformation and regional ICT connectivity"** is directly linked to the "Digital Transition" and "Private Investments and Institutional Transformation" priorities of the Recovery and Resilience Plan, with an aim of systematically enhancing the productivity and

extroversion of the national economy, as well as the links of production with technology and innovation.

The Components 2.1 and 2.3, related to the **“Digital Transition”** priority, promote reforms and investments for broadening the connectivity of households and enterprises to high-capacity-networks, for developing new generation networks, for the technological and digital upgrading of small and medium-sized enterprises (SMEs) and for enhancing their digital skills. These constitute priorities of the PO1 of the new Partnership Agreement as well. Similarly, the Component 2.2 focuses on the modernisation and digital transformation of the public administration, and its key processes, improving its operational efficiency and effectiveness, and the quality of public services provided to citizens and businesses. Therefore, the reforms and investments of Component 2.2 are also aligned to the PO1 of the new Partnership Agreement, with high complementarity and synergy of the respective actions.

Moreover, the Components 4.5 and 4.6 of the Recovery and Resilience Plan, which are focusing on strengthening the links of production with research and innovation, on improving the competitiveness and productivity of key sectors of the national economy (tourism, culture, agriculture, manufacturing, transports and logistics), through targeted reforms and investments, are also directly linked and consistent with the PO1 of the new Partnership Agreement, and they support common policy priorities.

The **Policy Objective 2 - “A greener, lower carbon and resilient Europe through the promotion of clean and just energy transition, green and blue investments, circular economy, climate change adaptation and the risk prevention and management”** prioritizes the necessary “green” transition for Greece, and the effective adaptation to climate change and mitigation of its impact. The PO2 is directly linked to the Recovery and Resilience Plan, and its “Green Transition” priority, also incorporating and specifying the objectives and priorities of the EU Green Deal Strategy and the National Energy and Climate Plan (NECP).

The Component 1.1 of the Recovery and Resilience Plan focuses on increasing the share of RES in power generation and in coverage of heating/cooling needs, on modernizing, upgrading and digitalizing the power transmission and distribution networks, on completing the electrical interconnections of the islands with the mainland power grid, on improving energy efficiency in all sectors, and on decarbonizing the energy system. It is highly consistent with the objectives and the priorities set out in PO2, while the reforms and investments of the Component 1.1 are expected to complement the new Partnership Agreement, jointly contributing to the attainment of the related national and EU targets.

Components 1.2 and 1.3 promote the improvement of energy efficiency in the domestic building stock, and the shift towards e-mobility and sustainable transportations, respectively. The reforms and investments proposed in the two Components reflect the respective priorities of the new Partnership Agreement and of PO2, and are expected to operate synergistically, and contribute jointly to the attainment of the related national and EU targets.

In addition, Component 1.4 emphasizes the protection of natural environment and sustainable management of the natural resources, the enhancement of adaptability and resilience to climate change and natural risks, the modern and effective management of solid and liquid waste, and the transition towards a circular economy. With investments related to large-scale reforestations and protection of forest lands in Greece, to the preservation of the domestic biodiversity, and to strengthening the resilience of natural ecosystems against climate change and natural risks, the Component 1.4 is fully aligned with the priorities of PO2 and the new Partnership Agreement for

the 2021 – 2027 Programming Period. The same holds for reforms and investments of the same Component regarding the rational and sustainable management of water resources and water conservation, the modern and efficient management of solid and liquid waste, the increase in sorting materials and recycling, and the transition towards a circular economy in production and consumption. In these areas, Component 1.4 also presents high consistency and complementarity with the PO2 and with the new Partnership Agreement.

At the same time, the Component 2.3 that promotes sustainable urban mobility in cities and other urban areas and the greater use of environment-friendly transportation types (electric vehicles, urban rail transit systems, bicycle etc.), as well as the Component 2.2 that advances interventions in the urban and spatial planning that will achieve balance between various activities and improve the daily life for citizens and visitors, are also fully aligned and supportive of the priorities of PO2.

The **Policy Objective 3 - A more interconnected Europe through enhancing mobility and regional connectivity** aims to support the development of accessible, climate resilient, intelligent, secure and intermodal transportation infrastructures at the local, national and regional levels and to promote sustainable urban mobility.

The Component 4.6, related to the “**Private Investments and Institutional Transformation**” priority of the Recovery and Resilience Plan, promotes the development of modern, “smart”, accessible, resistant to climate change and sustainable infrastructures for transportations and mobility. The goal of the related, targeted investments is the completion and interconnection of infrastructures for passenger and commercial purposes at the local, national and regional levels, the continuous control and maintenance of infrastructures, their modernization with new user-friendly services, as well as the enhancement of road safety. Therefore, the Component 4.6 is highly consistent with the objectives of the new Partnership Agreement and the PO3 and operate as complements towards a common direction.

The **Policy Objective 4 - A more social Europe through the implementation of the European pillar of social rights** has as its main goal to ensure equal access to quality services and goods for all citizens, and to invest in human resources.

Through the “**Employment, skills and social cohesion**” priority, the Recovery and Resilience Plan fully aligns with the objectives and priorities of PO4 of the new Partnership Agreement. In more detail, the Component 3.1 advances reforms that will enhance employment and accessibility to the labour market, that will address inequalities and social exclusions, and that modernize the social security system. These reforms are directly linked to the priorities of PO4 and address them. Similarly,

The Component 3.2 aims at improving long-term employment and productivity of the local labour force, through strengthening the vocational education and training and skill formation systems, as well as through modernizing the education system and improve its research and innovation performance. The related reforms and investments of this Component are in conjunction with the priorities and the policy recommendations of the PO4 and the new Partnership Agreement.

On the other hand, the Component 3.3 of the Recovery and Resilience Plan places emphasis on the healthcare system, through reforms and investments to increase its efficiency, productivity, accessibility and financial sustainability. This batch of reforms and investments complement the priority areas and interventions included in the PO4, contributing to an overall improvement of the healthcare system and to the provision of effective, high-quality services to every citizen.

Finally, the Component 3.4 focuses on modernizing the social care and solidarity mechanisms, and on ensuring equal access of all, including the most vulnerable social groups, to quality social services. This specific Component includes reforms and investments in advancing social policy and the measures for supporting vulnerable social groups, in broadening the access of all citizens on high-quality social services, and in tackling social exclusion and discrimination. As a result, the Component is highly consistent and complementary to the priorities set out by the PO4, and the respective actions of the new Partnership Agreement.

The ***Policy Objective 5 - A Europe closer to its citizens, through the promotion of sustainable and integrated development of urban, rural and coastal areas, as well as through the support of local initiatives*** promotes the implementation of integrated territorial strategies, with utilisation of tools such as the Integrated Territorial Investments and the Community-Led Local Development Initiatives, deployed in areas selected along their needs and characteristics (growth prospects, environmental challenges, socio-economic pressures etc.).

The Recovery and Resilience Plan also promotes the sustainable and integrated territorial development, interacting and complementing the actions of the new Partnership Agreement and of the PO5. Specifically, through the “**Green Transition**”-related Component 1.2, the reform and completion of urban and spatial planning in Greece is promoted, along with the modernisation of land uses, which complement and support the integrated territorial strategies of PO5 and of the new Partnership Agreement. The same Component also promotes integrated interventions for the renewal and revitalisation of urban areas that advance sustainable urban development, modernize land uses to support novel activities, enhance accessibility and resilience to climate change and its effects, and improve more broadly the quality of life of inhabitants and visitors. In that way, the Component 1.2 is highly consistent with the objectives and priorities of PO5.

At the same time, the Component 4.6 of the Recovery and Resilience Plan aims to enhance the competitiveness and resilience of key sectors of the national economy, promoting investments – inter alia – in enriching and improvement of the tourist product of Greece, in more effectively showcasing the national cultural reserve, in the development of mountain, coastal and island regions and the exploitation of their comparative advantages, in the completion of all the necessary infrastructures, and more broadly in the advancement of sustainable development. As a result, the Component 4.6 and its reforms and investments are fully aligned with the objectives of PO5 and of the new Partnership Agreement.

Other Components of the Recovery and Resilience Plan that also seek to advance sustainable local and regional development, are also consistent to PO5 and the new Partnership Agreement, and multiple complementarities and synergies are expected from various investments and activities.

The ***Specific Objective for the Just Transition Fund*** focuses on the just and viable transition of the coal-affected areas of Greece – the Western Macedonia Region and the Municipality of Megalopolis – that are directly impacted by the national strategy for fully decarbonizing power generation by 2028. The Partnership Agreement for the 2021 – 2027 Programming Period, and the actions to be undertaken through the Specific Objective (and through the 5 key POs as well), complement the objectives, priorities and policy measures of the NECP, which specifies the national target to completely phase-out lignite by 2028, and of the National and Territorial Just Transition Plans, which constitute a detailed roadmap for the just socio-economic transition of the coal-affected areas.

Also aligned to the targets of the NECP and the Just Transition Plans is the Recovery and Resilience Plan, which is expected to operate in synergy with the new Partnership Agreement. In particular,

the Component 1.1 proposes investments in restoring the mine lands in Western Macedonia and Megalopolis, as part of the broader targets set out in the NECP and the Just Transition Plan for productive and environmental revitalization of the coal-affected areas and for the development of new land uses that can accommodate and support differentiated activities. In that direction, the Component 1.1 complements the Special Objective of the new Partnership Agreement, and the actions to be implemented through it.

Similarly, the other Components of the Recovery and Resilience Plan, are also aligned to the Special Objective, and the reforms and investments included in each of them are expected to complement each other and contribute to diversifying the growth model of coal-affected areas, to increasing the penetration and use of “green” energy, to boosting employment and to restoring social cohesion.

Consistency of RRF with the Greek Youth Guarantee implementation Plan

Youth unemployment constitutes one of the chronic deficiencies and major political, economic and social challenges for Greece with permanent significant impact on social cohesion. Greece submitted its Youth Guarantee Implementation Plan in 2014 in the middle of its economic crisis while recording the highest rates of unemployment in EU (approx. 60%) which followed by an unrepresented “brain drain” of Greek young people. Currently, and despite a significant decrease, the Youth Unemployment rate remains high and far above EU average (Nov2020, 34%, 2nd in EU - Eurozone).

The Greek Youth Guarantee Implementation Plan (GYGIP) was presented in December 2013 and updated in June 2014. The design of the YG scheme drew upon the experience gained from the "Action Plan of Targeted Interventions to Strengthen Youth Employment and Entrepreneurship within the Operational Programme of NSRF"² (January 2013), which was the first cohesive effort to tackle youth unemployment. The scheme is based on the broader national strategy laid out in the "Partnership Agreement for the Development Framework, 2014-2020" and the "Action Plan for Creating New Jobs and Supporting Unemployed People" (May 2013). It includes a set of actions addressed to young people aged 15 to 24, who do not work or participate in any educational or training cycle. All young people up to the age of 24 should receive a good quality job offer, vocational training, apprenticeship or internship within a period of four (4) months after they leave formal education or they lose their job. To achieve this goal, the plan is based on broad horizontal cooperation of the relevant public authorities and services, as well as in establishing partnerships with their representatives of social partners and youth. The Ministry of Labour and Social Affairs is in charge of the strategic planning and implementation of the YG, and supported by the PES (OAED) and other actors including the Ministry of Education, Research and Religious Affairs, the Ministry of Rural Development and Food, the Ministry for Development and Competitiveness, the Ministry of Merchant Marine and Island Policy, the Ministry of Tourism, the Ministry of Culture, local authorities and social partners¹⁰⁹.

Main targets of the GYGIP were: a) reorganization - upgrade of the provided services of finding employment, consulting, etc. of O.A.E.D. (Hellenic Manpower Employment Organization) in order to operate as basic pillar of achieving the targets of the Plan; b) enhancing labor market mobility and connectivity of education with employment, in particular for market entry and initial employment; c) upgrading the employability of human resources and particularly of marginalized groups, already in long-term unemployment; d) strengthening labor demand, with subsidy

¹⁰⁹ European Commission, Youth Guarantee country by country, Greece October 2020

programs of employment in the private sector and public interest bodies, as well as facilitating in meeting this demand with in-service (operational) training and retraining of the unemployed.

The interventions of GYGIP include the following: promoting systemic interventions and reforms; training, educational and employment actions exploiting future opportunities in sectors of the economy with growth potential; development and utilization of modern information systems ("Ergani"); d) modernization of the Public Employment Services; e) establishment of partnerships with stakeholders, social partners and young people (open channel of communication, good practices).

Tackling unemployment and creating new, sustainable and good jobs in particular for young people, is a key priority and ultimate goal for the Greek National Recovery and Resilience Plan. The Components under "Green", "Digital" and "Private investment and transformation of the economy" comprise numerous investments and reforms which contribute directly or indirectly to job creation, while the Components under "Employment, Skills and Social Cohesion" are by definition and directly linked to enhance youth employment with direct impact on the National Youth Guarantee Implementation Plan.

"Employment, Skills and Social Cohesion" Components

The RRF plan of Greece includes the following investments and reforms which contribute directly or indirectly to the Youth Guarantee Implementation Plan targets and interventions: Labour market reform, enhancing job creation and job resilience in the event of shock; State of the art Active and Passive Labour Market Policies, promoting labour market activation, job creation and safety nets against unemployment; State of the art up-skilling and reskilling programs boosting employment, including digital skills and encompassing Vocational Education Training and Apprenticeships; Reforms and investments enhancing the autonomy of Greek Universities, their research performance, and the quality of university education, including its relevance to the labour market; integration of vulnerable groups.

The Pissarides Committee Report, underpinning the new Growth Strategy of Greek economy, finds that the Greek labour market is characterised by low productivity, low participation and a high dependency ratio. The Report advocates policy Intervention on both these issues including, among others, (a) improving the skills of the labour force (employed and unemployed) and (b) increasing the participation rate of those groups of the population currently under-represented in the labour market (women, young people and older people)

Component 3.1: Increasing job creation and participation in the labour market: This component aims to increase long term employment and productivity through the enhancement of human capital. The main avenues through which the component will pursue its objectives related to the National Youth Guarantee Implementation Plan are mainly: labour market reform, upgrading the market's ability to create jobs and increasing its resilience in the event of shocks; incentives-compatible, state of the art Active and Passive Labour Market Policies, enhancing labour market activation, job creation and safety nets against unemployment. Additionally, the Reform and Digitalisation of the Public Employment Service (OAED) and the upgrading of the labour market needs' diagnostic mechanism focus on improving the effectiveness and digitalisation of the public administration, also helping to mitigate the employment and social impacts of the COVID-19 crisis, is also directly linked with the National Youth Guarantee Implementation Plan.

Reform 2 “Active Labour Market Policies” explicit includes as strategic objective the “Significantly increase female and youth participation in the labour market”, where, specifically investment projects are proposed for “Short-term work experience programme for younger unemployed workers (ages 18-30)”.

Component 3.2: Education, vocational education and training, and skills: This component aims to increase long term employment and productivity through the enhancement of human capital. The component also includes reforms increasing the appeal and labour market effectiveness of vocational education training (VET) for young people; a forward-looking overhaul of the dual apprenticeship system; and a major reform (closely aligned with the reform on governance) of the contents and delivery of the skilling, reskilling and upskilling programmes offered by the public employment service (OAED). The reforms’ benefits will be strengthened and accelerated by investments in digital systems, laboratory equipment for VET training units and OAED units, and a targeted programme of buildings’ refurbishment/upgrade.

One of the main challenges is the participation of young people in vocational education training (VET) which is low compared to the EU average. The same holds true for participation in life-long learning/training programmes. Enterprises’ willingness to finance their employees’ participation in training programmes is low, and the same is true for demand by private-sector employees to participate in such programmes.

Reform 1 “A New Strategy for Lifelong Skilling: Modernising and Upgrading Greece’s Upskilling and Reskilling System” (ID: 16913) introduces an umbrella governance framework for and reskilling programmes taking place in Greece. Among others, its aim is to equip younger workers with the necessary competencies and knowledge to succeed in the labour market.

Reform 2 “Upgrade Vocational Education and Training for young people” aims at increasing the quality and market relevance of the Vocational Education Training (VET) system. More specifically, it pursues the transformation of VET into an appealing educational pathway, delivering qualifications that are relevant to labour market demand, boosting productivity and reducing unemployment, especially among young people. As per the suggestions of the Pissarides Committee interim report, this reform will help reduce the significant gap between the skills (including digital skills) demanded by employers and those offered by job-seekers, especially in sectors such as energy, information technology and communications, health, tourism and STEM.

Reform 3 “Strengthening the Dual Apprenticeship System” (also in line with the proposals made by the Pissarides’ Committee report and closely aligned with Reform (2) above, aims at strengthening the apprenticeship system in order to facilitate entrance to the labour force. In particular, it reassesses, redesigns and updates the current apprenticeship system to align it with current labour market requirements. In the context of the reform, the curricula for the Apprenticeship Schools for about 40 specialties will be revised, modernised and aligned with labour market needs, in order to raise the level of skills provided to apprentices (including digital skills), in close cooperation with social partners and employers. Overall, the reform renders the apprenticeship system an integral part of the authorities’ strategy towards upgrading VET and, ultimately, reducing youth employment.

The apprenticeship model currently implemented by OAED has proven to be effective, since a significant percentage of OAED apprenticeship schools (EPAS) students/apprentices continue to work for the same employer after the end of their studies and apprenticeships. Vocational education as provided by the EPAS can and must be further enhanced to become an integral part of the authorities’ strategy towards upgrading VET and, ultimately, reducing youth employment.

The Ministry of Education is drafting a bill according to which the OAED Apprenticeship System is being re-established as a discreet pillar in the national VET System.

Component 3.4 “Increase access to effective and inclusive social policies” includes reforms and investments targeted towards some of the most vulnerable population groups of the country, with the overarching aim of providing equal opportunities for all, irrespective of gender, ethnicity, sexual orientation, age, disability, and other characteristics. It includes reforms and investments whose target is to ensure the social inclusion of vulnerable population groups by means of (a) promoting economic activation, through the provision of training, education, and apprenticeship opportunities; and (b) ensuring access to effective and high-quality social services. Unemployment and in particular of the young is a main challenge of the Component.

Digital Transformation Bible 2020 – 2025

The **Digital Transformation Bible 2020 – 2025** details the strategy of Greece for transition to the digital age, through a set of horizontal and vertical policy interventions that will foster the digital transformation of the Greek society and economy. In addition, the “Bible” introduces a new model for digital governance, with novel, enhanced mechanisms for the design, implementation and monitoring of digital projects.

The Recovery and Sustainability Plan places the digital transition at the epicenter of changes that will unleash the dynamics of the economy and contribute to strong, sustainable growth. Through targeted reforms and investments, the Recovery and Sustainability Plan promotes the expansion of connectivity of households and business to high-speed and capacity broadband networks, and the installation of new generation networks across the country (Component 2.1), incorporating in that way the objectives and guidelines of the “Bible”.

The Recovery and Sustainability Plan also promotes reforms and investments for the digital transformation and modernization of the public sector, and the provision of modern, high quality services to citizens and businesses (Component 2.2), as well as for the technological and digital upgrading of private sector businesses. (especially small and medium-sized enterprises), and the enhancement of their digital skills (Component 2.3). These reforms and investments are fully aligned with the objectives and priorities of the Digital Transformation Bible, and are expected to act as complements with other actions proposed in the latter.

National Research and Innovation Strategy for Smart Specialization 2014 - 2020

The **National Research and Innovation Strategy for Smart Specialization** was formulated in the context of the “Europe 2020” Strategy of the European Commission, and of the Cohesion Policy for the 2014 – 2020 Programming Period. The goal of the National Smart Specialization Strategy is the productive restructuring of the country, with research, technology and innovation as key drivers, to address regional inequalities and spur long-term employment. Today, an updating process is underway to better adapt the Strategy to the needs and the priorities of the new Programming Period (2021 - 2027).

The Recovery and Resilience Plan is directly linked to the goals and the priorities of the National Smart Specialization Strategy, incorporating the results and experience from its implementation. The Recovery and Resilience Plan advances reforms and investments for enhancing research and

innovation in the educational system (Component 3.2), as well as for strengthening the links of entrepreneurship and production with scientific knowledge and innovation (Component 4.5), in accordance with the priorities and objectives of the National Smart Specialization Strategy.

In addition, there are several priorities shared by the National Research and Innovation Strategy for Smart Specialization and the Recovery and Resilience Plan, and supported through reforms and investments of the latter, including:

- The energy transition and overall upgrading of energy infrastructures (Component 1.1),
- The improvement of environmental protection and the enhancement of resilience of cities and ecosystems against climate change (Components 1.2, 1.3 and 1.4),
- The promotion of state-of-the-art Information and Communication Technologies (ICT) at all levels (Components 2.1, 2.2 and 2.4),
- The boost in productivity, competitiveness and resilience of key sector for the Greek Economy, such as culture, tourism, the primary sector, manufacturing and transports – logistics (Components 4.6 and 4.7).

National Strategy for Higher Education (2016 – 2020)

The **National Strategy for Higher Education** reflects the strategic priorities and objectives of the country with regards to its Higher Education system, the organization and functioning of academic institutions and bodies, the framework for their networking and extroversion, and more broadly the responsiveness to the needs of students, of the society and of the economy.

The Recovery and Resilience Plan incorporates the priorities and objectives of the National Strategy for Higher Education and prioritizes reforms and investments for improving the Higher Education systems, the academic institutions and their teaching and research activities (Component 3.2).

In addition, the Recovery and Resilience Plan aims at strengthening the links of entrepreneurship and production with scientific knowledge, technology and innovation (Components 4.5 and 2.3), in consistency and complementarity with the emphasis placed by the National Strategy for Higher Education in linking education, research and production.

National Integration Strategy

The **National Integration Strategy** is a comprehensive plan for the integration of third-country nationals, taking into account the developments of recent years at the local, national, regional, EU and international level, the needs and capacities, and the compliance with the EU values and principles framework.

The Recovery and Resilience Plan incorporates the guidelines and objectives of the National Integration Strategy, and responds through interventions for facilitating the social inclusion of immigrants and beneficiaries of international protection, through introducing them in the labour market and providing to them specialized services regarding skills diagnosis, consulting, training and reskilling/upskilling (Component 3.4). Moreover, the Recovery and Resilience Plan promotes the digitalization of migration system processes and of the archives of the Asylum Service, in order to improve control over migration flows and achieve faster inclusion of legal migrants, asylum-

seekers and refugees (Component 3.4). These investments are fully aligned to the priorities of the National Integration Strategy and operate as complements with actions included in the latter.

National Action Plan for the Rights of Persons with Disabilities

The **National Action Plan for the Rights of Persons with Disabilities** was formulated and adopted in 2020 and constitutes a comprehensive roadmap for the coordination and monitoring of all actions and policies regarding the rights of persons with disabilities.

The Recovery and Resilience Plan is consistent with the National Action Plan for the Rights of Persons with Disabilities, and advances reforms and investments that improve living conditions and accessibility to critical services, as well as the inclusions into the society and labour market. These reforms and investments broaden the accessibility of persons with disabilities in important services, advance deinstitutionalization of children and adults with disabilities, and focus on the provision of direct and effective social care services to them (Component 3.4). In addition, the Recovery and Resilience Plan includes reforms and investments for improving the skills, the employability and the sustainable employment of persons with disabilities, in order to achieve their integration in the labour market (Components 3.1 and 3.2). This batch of reforms and investments complements the actions and policies included in the National Action Plan for the Rights of Persons with Disabilities, jointly contributing to achieving common goals.

National Transport Strategic Plan

The **National Transport Strategic Plan** provides the basis for sustainable transport infrastructure and service development in Greece over the medium to long term, which will contribute to the competitiveness of the transport sector of the country.

The Recovery and Resilience Plan is highly consistent with the National Transport Strategic Plan, as it acknowledges the importance of developing modern, sustainable, accessible and climate change resilience transport infrastructures (Component 4.6). Through dedicated investment, the Recovery and Resilience Plan aims to facilitate the development of required infrastructure at the local, regional and international levels, interconnecting all areas in the country, and improving the mobility of citizens and goods. At the same time, the Recovery and Resilience Plan advances road safety through targeted education and communication (Component 4.6) and promotes more broadly the shift towards sustainable urban mobility in cities and metropolitan areas and towards more sustainable and environment-friendly transportation modes (Component 1.3). The reforms and investments included in the Recovery and Resilience Plan are expected to operate in synergy with projects included in the National Transport Strategic Plan, and jointly contribute towards the achievement of common objectives.

National Plan for Crisis Management and Hazard Mitigation

The **National Plan for Crisis Management and Hazard Mitigation** introduces a comprehensive package of activities for the coordination and implementation of interventions for effective and timely management of crises from all the involved operational, executive and support structures, with an aim at effectively managing adverse situations, due to natural, technological or other disasters and/or threats.

The Recovery and Resilience Plan acknowledges the enhancement of resilience against threats and risks of any kind as a crucial element of economic and societal development and progress. As a result, it fully incorporates the strategic guidelines, objectives and detailed targets of the National Plan for Crisis Management and Hazard Mitigation. In more detail, it promotes, through dedicated investments, the improvement of the resilience of natural and urban ecosystems to climate change and natural risks (Components 1.2 and 1.4), as well as the consolidation of civil protection mechanisms and their operation, and of the early warning and response mechanisms (Component 1.4).

Moreover, the Recovery and Resilience Plan embraces the objectives and recommendations for more effective management and mitigation of risks related to public health (Component 3.3) and to the technological (Component 2.1), energy (Component 1.1) and transport (Component 4.6) infrastructures and networks in Greece.

In that way, the Recovery and Resilience Plan and the National Plan for Crisis Management and Hazard Mitigation operate as complements, building and enhancing resilience towards all potential risk factors.

Complementarity with Enhanced Surveillance Framework

Apart from the European Semester, economic developments and policies in Greece are monitored under the enhanced surveillance framework, according to Regulation (EU) No 472/2013, with the aim to address potential sources of economic and financial difficulties and implement structural reforms. The enhanced surveillance framework also allows the assessing of the commitment given by Greece to the Eurogroup of 22 June 2018, to continue the reforms adopted under the European Stability Mechanism programme and to ensure that the objectives of the important reforms adopted under the financial assistance programmes are safeguarded.

In that context, enhanced surveillance monitors the implementation of specific commitments to complete key structural reforms started under the programme, in six key areas, namely: (i) fiscal and fiscal structural policies, (ii) social welfare, (iii) financial stability, (iv) labour and product markets, (v) Hellenic Corporation of Assets and Participations and privatization, and (vi) the modernization of public administration.

The Greek Reform and Resilience Plan is designed to operate in consistency and synergy with the enhanced surveillance framework, as it includes and builds upon many structural reforms and commitments under it.

In more detail, Greek RRP (mainly under component 4.1, 4.2) includes, inter alia, the following reforms and investments, that are directly or indirectly linked to the key area of fiscal and fiscal structural policies, under enhanced surveillance framework; Accounting reform, measures and incentives to promote electronic transactions, new framework for the fight against smuggling, online cash registers and POS, digital transformation of tax and customs administration, as well as a new system for public procurement.

Another set of interventions (under component 3.3 of the RRP) is dedicated to the improvement of resilience and sustainability of healthcare in Greece in line with the enhanced surveillance frameworks goal for modernisation of healthcare. The National Health System will go through a digital transformation that will facilitate all efforts being made to control healthcare spending and centralise procurements while organisational reforms (KETEKNY, ODIPY) are planned in order to

rationalise the hospital reimbursement system and create a framework that will ensure quality procedures and performance measurements in healthcare. A reform of the clawback system aims to reduce clawback amounts while a system offsetting clawback returns with clinical trial, R&D or investment expenditure by liable companies is being set. Last but not least, a reform of the Primary Healthcare System will be implemented aiming to build a strong system with an effective gatekeeping function, through the upgrading of facilities and equipment, the implementation of organizational changes and the training of PHC staff.

The Greek RRP (mainly under component 4.4) includes also the following investments and reforms, which contribute directly or more broadly to the goal of financial stability; Implementation of the new insolvency framework, new loans promotion and establishment of the credit expansion observatory, enhancing the AML/CFT framework, development of capital markets, strengthening of the capacity of the financial system to overcome legacy challenges and finance the real economy. Supplementally, reforms under the title: “Digital Transformation of Justice (e-justice)”, “Skills and digital skills for judges and judicial employees (judicial staff)” and “Accelerating the administration of justice” are expected to increase the digital capacities of the justice system while at the same time, empower judges and judicial staff and provide them with the competent skills to substantially increase the speed of administering justice without compromising its quality.

Regarding labour and product markets, the Greek RRP entails various proposals linked with the reforms under enhanced surveillance framework. Specifically, a set of reforms and investments (under components 3.1, 3.2) have been planned to support the modernisation of the labour market, promote job creation and enhance employability. A new labour law will induce structural changes in order to increase job creation and competitiveness, fight under-declared work, improve the work-life balance and bridge the gender employment gap. The reform is supported with an extensive investment in the digital transformation of the labour systems (including ERGANI, eEFKA, ATLAS, SEPE, HERIDANOS). At the same time, active and passive labour market policies are being reformed and paired with investments such as the upskilling/ reskilling of the labour force to boost employment and employability and the digital transformation of OAED with a view to increasing the effectiveness of policies against unemployment.

Furthermore, there are additional actions for the simplification of the business environment and for upgrading in quality and safety, that includes, among others, the extending of licensing simplification to additional economic activities, as well as ‘Ease of Doing Business’ reform (ID: 16591) with interventions to improve business environment and Greece’s ranking in the World Bank DB indicator. In addition, Digitalisation of Economic Diplomacy Network and export training actions, as well as Trade facilitation, aiming to assist existing and potential exporters and boosting exports.

Moreover, reforms and investments in the sector of spatial and urban planning affect horizontally a range of policy areas, including environmental protection, adaptation to climate change, built environment, development, allocation of the public infrastructure, and are closely related to the fast development of a modern and efficient cadastre. The successful completion of the cadastre project, as well as the investment of the National Reforestation Plan, under which the restoration of several degraded forest ecosystems will be implemented, encompass as a prerequisite the acceleration of the ratification of forest maps throughout the country.

In addition, the preparation of urban plans in implementation of urban policy reform is also closely related to urban sustainability, which is an RRP key priority under the Green Pillar. The reform, under the current enhanced surveillance program, of the obsolete legal framework for the

elaboration of sustainable urban mobility plans for main urban centres, redefines the relationship between cities and the people living in them and changes urban transport to a less polluting and more efficient model.

In relation to the key area of Hellenic Corporation of Assets and Participations and privatizations and for the purpose of enhancing the development of public real estate assets, the investment in the Olympic sports complex of Athens (OAKA) attempts to repair, maintain and improve the operating efficiency of the Olympic complex in order to extend its useful life, restore its image as a landmark and convert it into a modern, sustainable, lively, safe and profitable urban athletics and leisure destination. Moreover, the modernization of the institutional framework for State Owned Enterprises follows the current attempts to identify and resolve legal impediments, as well as other practical issues, related to a more commercial operation of HCAP's SOEs.

Finally, other components of the Greek RRP are aligned towards the modernization of public administration. More specifically "Reforming Public Administration" (ID: 16972) consists of a comprehensive set of actions to further modernise the public administration and invest in its human resources, while the Reform "Strengthening the national anti-corruption framework through targeted interventions in the fields of detection, prevention and raising awareness" encompasses the strengthening of Internal Control System of the public administration as well the drafting of National Anti-Corruption Action Plan for the period 2022-2025. Finally, the Reform titled "Efficient Combating of Corruption" comprises a series of necessary amendments in the legal framework of Greece to assist with the combating against corruption in key policy areas as well as implement satisfactorily specific GRECO recommendations.

In addition to the above mentioned six key reform areas, Greece has undertaken complementary commitments aiming at improving the education system through reforming higher education and VET and setting up an evaluation system. The RRP also supports the transformation momentum of this policy area, through reforms and projects contributing to accelerating the implementation of recently passed VET legislation, strengthening the apprenticeship system to enhance employability, as well as upgrading laboratory infrastructure of VET units. An all-encompassing strategy to enhance excellence and innovation in universities is promoted, while particular emphasis is placed on the digital transformation across all education levels.

Moreover, in regard to the complementary commitments undertaken by the Greek Authorities in May 2020, as referenced in the Enhanced Surveillance Report, concerning the e-governance policies, they are supported by a number of investments and reforms of the Greek RRF plan, including the development of a framework for the provision of user-oriented public services, the upgrade of infrastructure and services of the General Secretariat of Information Systems for Public Administration (GSISPA), the interconnection and interoperability of registries and services for data exchange between public organisations, the upgrade and interconnection of the national open data portal, the supply of central cloud computing infrastructure and services, the implementation of a Central Document Management system and the simplification of the procedures in key policy areas.

Complementarity of funding

The structure of the RRF Management and Control System (MCS) ensures that the support provided under the RRF will be additional to support provided under other Union funds and programmes. In cases where reforms and investment projects receive additional funds from other Union programmes, the RRF MCS will ensure the avoidance of double-funding and prescribe for the clear distinction among the separate costs covered.

Given that the same cost cannot be financed twice, the MCS ensures the avoidance, prevention, and even detection and correction of double-funding by robust structured procedures set in place, such as:

- the interoperability of the electronic managing and monitoring systems that are used by the implementing bodies and all the actors involved in the RRF MCS, as well as in the management and control systems of other ESI funds,
- the common electronic system (e-pde) for the funding/payment of all co-financed projects (RRF, ESI, CEF and even national funded projects), securing that no financial claim can be approved more than one time,
- the close cooperation between the two main responsible authorities (Ministry of Finance/RRFA and Ministry of Development and Investments/National Coordination Authority).

Moreover, all IBs will have to declare in the RRF MIS that no previous Union funding has been granted for the same project costs during the current or in previous periods, while the RRF MIS will allow for the efficient cross-checking, detection and consolidation of all possible data sources that relate to the funding of the IBs and specific projects.

Different EU funding streams for the same project will be systematically separated into different funding sources, allowing for maximum controls over the total funding. This level of data consolidation and transparency will ensure the early detection and avoidance of double funding cases between the RRF and other EU programmes, while it will act as a preventive factor for the IBs.

Interoperability between the different information systems of the public sector and close coordination between all public actors, will promote the effective and efficient functioning of synergies between all involved stakeholders, while double funding cases will be flagged through (existing) Business Intelligence tools using data collection and consolidation. A characteristic example is that the RRF MIS will be developed in the same platform as the NSRF, which will enable the exchange of data and the application of cross-checks with all the different EU related data sources, such as the NSRF, CEF etc.

Actions taken for the plan's implementation

Introduction – Objectives

The unique nature and the size of the European Union's Recovery and Resilience Facility (hereafter RRF) instrument requires the introduction of a tailored-made Management and Control System (hereafter MCS), since RRF is a performance-based spending program that links payments to performance rather than costs.

The proposed MCS is developed under the direct management of the Greek authorities, namely, the RRF Coordination Agency (RRFA), which has the overall responsibility for the implementation of the National Recovery Plan (RRP) and constitutes the single point of contact ("the coordinator") between the Greek Authorities and the European Commission (EC).

The main objectives of the MCS are to:

- Ensure that the projects' implementation is aligned with the national RRP, as approved by the European Council.
- Ensure that projects' implementation complies with the national and European regulatory framework and that cases of conflict of interest, corruption, fraud, and double funding are avoided.
- Provide the framework for active monitoring of the projects' implementation, raising the alarm in case of delays, in order to take remedial action when necessary.
- Provide the framework for the control and audit of the projects and the Implementing Bodies (IBs).
- Verify the efficient and effective use of RRF funds.
- Report to the European Commission the successful completion of the agreed milestones and targets

Bodies involved in the MCS – roles and responsibilities

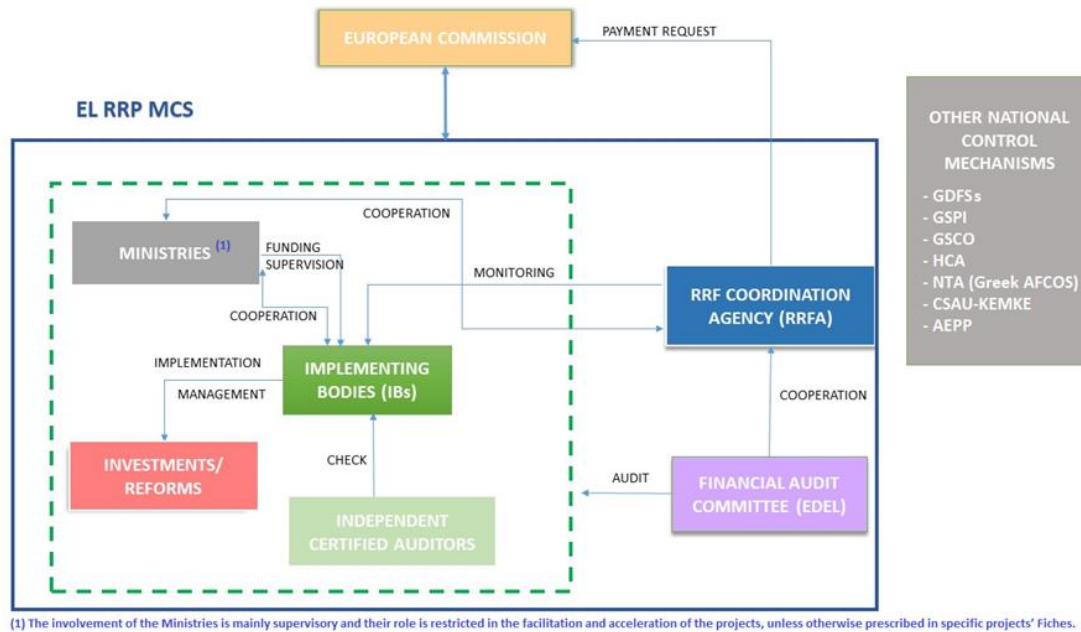
The proposed MCS identifies clear actors (bodies/entities) and their roles and responsibilities in the planning, management, implementation, control of the projects and audits under the RRF.

The System's structure includes the Authorities/Bodies that take over the responsibilities of management, verification and control/audit. Specifically, it includes:

- The Recovery and Resilience Facility Coordination Agency (RRFA) that is the lead national body tasked with the overall coordination and monitoring of the National RRP.
- The Ministries involved that will draft and submit the proposals for reforms and investment projects to be financed under the Recovery and Resilience Facility.
- The Implementing Bodies (IBs) that will undertake the management and implementation of the approved projects.
- The Financial Audit Committee (EDEL) will execute the audits in order to provide assurance as to the achievement of the milestones/targets and the effective functioning of the RRF MCS.

Briefly, the diagram of the organizational relationship between the Authorities participating in the MCS is presented in the following Figure of the "Management and Control System Structure".

Part 3: Complementarity and implementation of the plan



A. The RRF Coordination Agency (RRFA)

The RRFA is a new agency, established in the Ministry of Finance to serve as the responsible body for the efficient use of the EU recovery funds deriving from the Next Generation EU and its key instrument, the Recovery and Resilience Facility (RRF). The RRFA is an independent special public service under the Minister of Finance, set up according to the Law 4738/2020, and constitutes the lead national body tasked with the overall coordination and monitoring of the National RRP, which will be submitted for approval to the EU institutions.

The current structure of the RRFA is presented in the organizational chart below. Pursuant to Law 4738/2020 (GG A '207), the RRFA will have 40 staff positions in total that will be covered mainly (at least by 50 percent) by permanent staff of the Public Sector, consisting of 29 University Education, 4 Technological Education and 5 Secondary Education employees, according to the provisions of paragraph 1 of article 278 of the above mentioned law. The qualifications required to fill the above positions are provided in paragraph 2 of the article mentioned above, while the procedures and the manner of staffing are mentioned in paragraphs 3 and 4 thereof.

The organizational structure and responsibilities of the RRFA may be amended to fully reflect the processes of the MCS, as soon as it is finalized. To meet its mandate, the RRFA structure ensures on the one hand the clear distinction of responsibilities at the level of Directorates and on the other hand the segregation of duties at the level and within the Departments, so as no member of staff has responsibility for more than one of authorizing, accounting, auditing or certification for sums charged to the RRP, and no member of staff performs one of those tasks without being supervised by a second member of staff.

In any case, the available resources and the staff expertise is among the RRFA priorities in order to ensure the efficient use of the resources of the European Union, and of the Recovery and Resilience Facility in particular, and the successive completion of its tasks. In order to strengthen the staffing process of the RRFA, and as a first step towards that direction, specific calls for expressions of interest for staffing were published in November 2020 and May 2021, reference number 135066 ΕΞ 2020/26.11.2020 (ΑΔΑ: Ψ9ΒΒΗ-ΟΒΒ) and 57512 ΕΞ 2021/17.05.2021 (ΑΔΑ:

ΩΓΨΒΗ-ZNZ), respectively, with a focus on competent employees with business experience in relevant tasks to be posted by RRFA. Given that the RRFA is a new service, which is staffed from the beginning, related staffing procedures are in progress, a certain number of experienced staff has already been posted to the RRFA and is estimated to be completed during the first months of the second semester of year 2021. Its staff members hold degrees from higher educational institutes; they are experienced in their field and belong, in their majority, to the sectors of Finance employees and Engineering, as well as other specializations necessary for the executions of the Agency's tasks. There is also support from a competent secretariat, whereas all work is performed under the direct supervision of the Governor. Moreover, it's worth mentioning that the RRFA, if required, may entrust to externals/experts the task of performing certain assignments on its behalf.

The employees of RRFA are appointed with full employment and with exclusive responsibility to carry out RRFA's tasks, without performing other duties outside the service. The staff of RRFA is functionally independent from other services carrying out management, implementing and auditing duties.

An internal process that will enhance the transparency at all stages has been designed and provides for the submission of a declaration of non-existence of conflict of interest by all staff of RRFA, regardless of specific position held within the service. This statement is filled once by all employees and is submitted to the Administrative Support Directorate of RRFA, which keeps a relevant register for the staff employed in the Service and reviews it on a periodic basis.

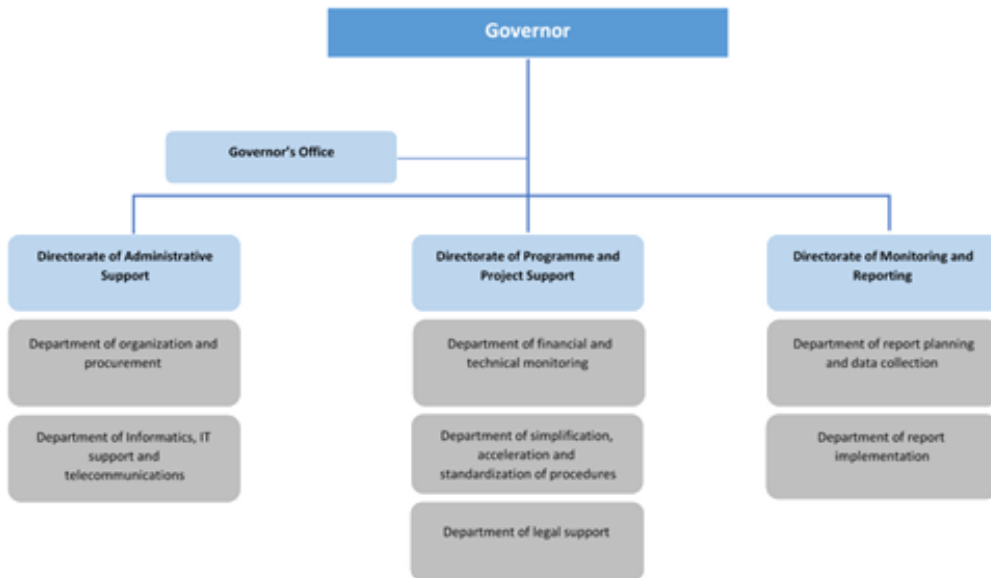
In order to safeguard a high level of work performed, RRFA applies a policy for the training and continuous upgrade of the qualifications and improvement of the skills of its entire staff.

The appointed staff already have valuable and specific expertise in the monitoring, management and auditing of projects co-financed by other EU funds, still RRFA will evaluate the needs for specific training in fields like management and control system of co-financed programmes, the regulatory framework for the implementation of RRF or other EU funds, auditing standards, IT skills, prevention and disclosure of irregularities and frauds, management of public contracts, public investment programme, as well as more specialized issues, and accordingly will organize specialized training programs or encourage its staff to acquire further knowledge and meet upcoming challenges.

Moreover, for individuals in positions of responsibility, training includes the development of skills that concern supervision of staff, management of human resources, organisation and administration of administrative units.

The Administrative Support Directorate of RRFA keeps a "Staff Training Register", which is a database recording the basic service data of the employees of RRFA and the training programmes (seminars, conferences) they have attended, and the certifications acquired. The staff training for improvement the competences and skills are subject to regular analysis.

Part 3: Complementarity and implementation of the plan



The RRFA will be the national body with the mandate/authority to exercise the following tasks:

- 1) To coordinate and provide support in the preparation and submission of the National RRP to the European Commission and any revisions thereto.
- 2) To design and modify the Management and Control System for the implementation of the RRP.
- 3) To issue the Approval Decision of the projects and verify that no conflict of interest and no double funding at the level of the projects' approval exist.
- 4) To pre-approve all tender documents, awards and needed modifications.
- 5) To verify that the implementation of the projects is in line with the approved RRP.
- 6) To perform active monitoring on the progress of the projects, on the basis of the milestones and targets set, for each component and/or reform and investment, and verify their achievement.
- 7) To evaluate the independent certified auditors' reports that will be employed by the IBs on the achievement of the milestones/ targets assigned to RRF funding requests and on the completion of the projects themselves.
- 8) To submit the payment requests to the EC, upon verification of the achievement of the milestones and targets through the RRF Management Information System (MIS), accompanied by the management declaration, as well as a summary of the audits carried out, including weaknesses identified and any corrective actions taken.
- 9) To prepare reports for the Minister of Finance, the competent government bodies and the competent bodies of the EU on the implementation of the projects and the achievement of the milestones and targets.
- 10) To facilitate the communication and information exchange on RRF issues between all stakeholders.

- 11) To monitor and evaluate the implementation procedures of the projects and to provide instructions and guidance to the competent bodies regarding the procedures, implementation, simplification and acceleration.
- 12) To propose to the Minister of Finance and the competent government bodies, ways of solving problems that arise during the implementation of the RRP.
- 13) To suggest to the Minister of Finance and the competent government bodies, revisions and amendments of the RRP.
- 14) To collaborate with the Financial Audit Committee (EDEL) on the audits performed on the achievement of milestones and targets and the assurance obtained from the audits on the effective functioning of RRP MCS.
- 15) To represent the Greek authorities in the competent EU institutions/committees for RRF and act as the contact point with the competent Directorates of the European Commission.
- 16) To collaborate with the Special MIS Agency of the General Secretariat of Public Investments and NSRF of the Ministry of Development and Investment for the development of the RRF MIS.
- 17) To report twice a year in the context of the European Semester on the progress made in the achievement of the national recovery and resilience plan.

B. Ministries

The Ministries involved have undertaken the submission of integrated project proposals that can be included in the Recovery and Resilience Mechanism and consequently, upon approval of their projects, the submission of the projects' Fiches. The staff of those Services involved in the financing of the projects have a complete independence from the Implementing Bodies and long experience in related issues of co-financed projects.

Ministries' competent services will support the monitoring of the projects' progress, be in close cooperation with both the RRFA and the implementing bodies, and intervene, whenever it is crucial, in order to support the implementing body towards the fulfilment of its obligations within the agreed timeline.

Moreover, meetings will take place periodically, on a two-months basis, under the Deputy Minister of Finance, with a representative of the General Secretariat for the Coordination, the Governor of RRFA and the involved Ministries representatives, so that all main actors involved are fully coordinated and informed on the progress of the investments and/or reforms implemented by each Ministry, the fulfilment of the milestones and targets and the problems encountered.

C. Implementing bodies (IBs)

The RRP projects will be implemented by national bodies appointed by the competent Ministries and will be responsible for the achievement of the agreed milestones and targets and the reporting of all data and documentation to RRFA through the RRF MIS. To this end, they shall appoint a project manager, who will act as the single point of contact between the Ministry and

the RRFA. The IBs have long experience in co-financed projects and their structure ensures complete independence in the exercise of their responsibilities at each distinct stage of project implementation and control.

The IBs shall apply control systems that ensure compliance with EU and national law, and the effective use of the RRF Funds, which will be further validated by an independent certified auditor. In cases of material delays, they shall provide justification and a remediation action plan to RRFA.

It is stated that the support of the monitoring and implementation of the projects is carried out by executives of the bodies entrusted with the relevant responsibility, while the control of the achievement of milestones / targets that are associated with RRF payment requests is assigned to an external independent certified auditor, who is selected and appointed among the ones registered in the official Register of the Hellenic Accounting and Auditing Standards Oversight Board (HAASOB). Moreover, the above mentioned external independent certified auditor will also be assigned to verify the completion of the projects and report accordingly. In order for reliance to be placed on the Audit/Assurance Reports drafted, the RRFA shall provide guidance for use by the IBs' auditors on the scope of the work to be done and the Reports to be presented. Matters that will be addressed shall include: the nature of the engagement; the purpose of the engagement; the identification of the information to which the agreed-upon procedures will be applied; the nature, timing and extent of the specific procedures to be applied; the anticipated form of the report of factual findings. The audits of the external auditor will be performed based on a specific Control Checklist that complies with the requirements of national and EU law, and drafts an Audit/Assurance Report, in accordance with the requirements of international auditing standards and more specifically of the International Standard on Assurance Engagements (ISAE) 3000 entitled: "Assurance Engagements Other than Audits or Reviews of Historical Financial Information". The Audit/Assurance Report shall mention any restrictions on the scope of work imposed by any third parties of other competences, participating in the audit of the physical object, while they shall also attest that they play no other role in the project implementation, nor act as advisors to the IBs.

D. The Financial Audit Committee (EDEL)

The Financial Audit Committee (EDEL) comes under the General Secretariat for Fiscal Policy (State General Accounting Office) of the Ministry of Finance, is a collective body supported by the administrative structure of the General Directorate for the Audits of Co-financed Programs. EDEL's mission is to safeguard the observance of the principles of sound financial management for co-financed programs.

EDEL is constituted of the General Director of Audits in Co-financed Programs as chairman and its members are the Heads of the three supporting Directorates: Planning and Evaluation of Audits Directorate, Audits in Co-financed Programs Directorates (A & B), the Head of the Unit for Exceptional Audits in Co-financed Programs and two experts from the public or private sector, with experience in the application of law of the European Union (EU) and audit of co-financed programs, public projects or state aid. The Head of the Legal Support Unit participates also in the Committee's meetings, without the right to vote.

In accordance with the provisions of Law 4314/2014, and specifically articles 11 and 12, as amended and in force, EDEL is the competent Audit Authority for ESI Funds (not only for Cohesion Policy Operational Programs, but also for FEAD, Maritime and Fisheries Fund, Migration and Internal Security Funds, Solidarity Fund, European Territorial Cooperation Objective and EEA

grants as well) and has been exercising the functions of the Audit Authority under shared management since 2001, for three consecutive programming periods.

The mandate of EDEL to audit RRF will be provided in a dedicated national legal act for RRF, which will include all involved actors, as well as management and control system responsibilities and procedures.

EDEL is the sole competent body to make and approve decisions on all matters falling within the scope of its responsibilities, in line with the rules and the assurances provided by the international standards on auditing on the functioning of an independent body acting collectively. The staff of EDEL's supporting Directorates and Units is functionally independent from other services carrying out management and implementing duties. Audits are performed by audit teams consisting of employees registered in the national Register of Auditors and external experts, both complying with the provisions of EDEL's Audit Manual ("Code of Conduct" section). Furthermore, via a recent national law amendment, EDEL (through its Chairman in accordance with the provisions of Code of Administrative Procedures), is authorized to sign the decisions of the Financial Corrections and Recoveries issued following the final reports of EDEL and these administrative acts will no longer be signed by the Minister of Finance, thus enhancing EDEL's functional independence.

The functional independence of EDEL from the RRF Coordination Agency and Implementing Bodies will be further provided in the aforementioned national legal act for RRF, ensuring that the roles assigned to all involved authorities are discernible, each having clear responsibilities and no margin for overlapping functions.

According to Presidential Decree 142/2017 and in order to be able to carry out its audit work and meet its operational needs, EDEL is currently supported by:

- two Directorates for Audits in co-financed Programs (DEDSP A' and B'),
- the Planning and Evaluation of Audits Directorate (DSAE),
- the Unit for Exceptional Audits in Co-financed Programs,
- the Legal Support Unit and
- the Administrative Support Unit.

To perform the required audit tasks for RRF, the necessary legislative arrangements in the organizational structure will be made for the establishment of a dedicated Unit within the General Directorate for the Audits of Co-financed Programs, under the Financial Audit Committee. For this new Unit, additional dedicated staff positions will be foreseen, which will be covered by transferring staff from existing positions of the General Directorate or from other units of the Ministry of Finance, as well as by secondment from other services and entities of the General Government. The option of outsourcing some of the audit tasks will be also foreseen. The aforementioned dedicated Unit will be supported in matters of audit strategy, sampling methods, audit methodology/ tools, financial corrections/ recovery procedure and follow up procedure, by the existing Planning and Evaluation of Audits Directorate. It will also be assisted by the existing Legal and Administrative Support Units. To avoid any negative impact on the current functioning of the services under EDEL, the reinforcement of the human resources of the General Directorate, as a whole, is also planned.

EDEL's Audit Strategy for RRF will be a long-term planning document that:

- sets the objectives and describe the methodology of EDEL's audit work throughout the implementation period of RRF actions and

- substantiates EDEL's capacity to complete its planned audit activities, in order to provide reasonable assurance for functioning of the control system, as well as for the accuracy and reliability of the payment requests.

The initial Audit Strategy for the RRF will be drawn up as soon as the Commission has completed the assessment of the submitted Greek Recovery and Resilience Plan and, in any case, simultaneously with the first audit plan. The Audit Strategy will be updated, at least annually, setting the audit priorities and specific objectives in relation to the next audit period and also assessing the need for revision of methods and processes to be followed for the fulfilment of EDEL's audit activities.

The structure and content of the Audit Strategy will include:

- The status and mission statement of EDEL and the national legislation setting out its functions and responsibilities, as well as justification of EDEL's functional independence from the other Bodies of the MCS.
- The description of the Risk Assessment Method to set audit priorities, for the selection of MCS Bodies and specific-horizontal issues to be audited.
- The reference to the international audit standards, guidances and methods applied by EDEL. Specifically, the issues that are mentioned are: the flow of the audit work, the Information Systems used, the methodology for the System Audits and the special thematic audits, the sampling method applied for the selection of actions/milestones/targets to be audited, the procedures for the reporting and the treatment of weaknesses/irregularities, as well as the procedure for the assessment of the Management Declaration and the Payment Requests (with reference to internal deadlines).
- The description and justification of the audit priorities and specific objectives with an explanation of the linkage of the risk assessment results (or the sampling scheme) to the audit work planned (both short and long-term plan), providing an indicative schedule of audit assignments (short term timelines).
- EDEL's organization chart and information for any audit body on which EDEL relies to perform audits, as well as the indication of planned resources to be allocated (both short- and long-term allocation).

Other national bodies involved (not part of the MCS):

At national level, a wide range of Authorities, Institutions and Services have been established to safeguard the national economic interests and ensure sound financial management.

Existing national control budgetary mechanisms include (among others):

- the Greek Organic Budget Law (Law 4270/2014) that aligned the national law with the overall requirements of the EU economic surveillance framework,
- the Public Procurement Framework, as stated in the Law 4412/2016, as amended and in force,
- the state aid control mechanism provided in Law 4152/13,
- the management of complaints provided in Law 4622/2019.

The above existing and established mechanisms which align to EU requirements, already perform a very comprehensive work. In particular:

1. ***The General Directorate of Financial Services (GDFSs):*** The GDFSs, established in all Ministries, ensure the protection of the financial interests of the State and of the European Union both in the process of the creation of the expenditure and at the payment procedure, and perform a comprehensive and integral control of the legality and the regularity of the expenditure and the overall procedure.

Specifically, Greek Organic Budget Law (Law 4270/2014) (OBL) transposed into the national legal framework the provisions of the 2011/85/EU Directive on requirements for budgetary frameworks of the EU Member States, and besides the explicit introduction of general principles of fiscal planning, it included the introduction of fiscal balance rule, a public debt rule, as well as an automatic correction mechanism that is set into force in the effect of a significant divergence from either the medium-term fiscal target or the course of adjustment towards it. Other reforms introduced through OBL amendments include the determination of explicit requirements for the submission of a supplementary budget, the imposition of sanctions to State entities (i.e. spending Ministries) in cases of violations of OBL, provisions regarding re-allocations of appropriations, a more strict framework for the use of the contingency reserve, as well as for the assumption of obligations by authorizing officers and the introduction of restrictions to the availability of appropriations in the case of discretionary spending categories.

Other legal provisions in the OBL include the extension of the budgetary scope from the State to the General Government, the strengthening of top-down budgeting, the introduction of the Medium Term Fiscal Strategy (MTFS), the establishment of commitment registries in all General Government entities, the establishment of monitoring mechanisms for State, Legal entities and State Owned Enterprises (SOEs) and for Local Governments (LGs). Finally, institutional reforms have also strengthened the fiscal framework in Greece, including the creation of a “Budget Bureau - General Directorate of Financial Services” in each spending ministry and the establishment of a Parliamentary Budget Office and the Hellenic Fiscal Council.

In the light of the above, in the process of management of Public Finance, there is a clear distinction and legal incompatibility between the role of the Authorising Officer (usually the Minister in line Ministries) and the General Director of Financial Services (GDFS), the former being responsible for the Commitment of Appropriation, thus the creation of the expenditure, and the latter for the overall sound financial management of the entity and its financial services and the execution of the budget. The duties of authorising officer and accounting officer are also segregated and mutually incompatible. More specifically, the establishment of GDFSs encompasses all existing financial units of each Ministry. The specific responsibilities of the heads of GDFSs include the provision of accurate information concerning the entity's budget to General Accounting Office (GAO) - Ministry of Finance, as well as to other interested parties, the observance of the spending ceilings of the entity's budget, the management of the entity's resources, the compliance to GAO's instructions and the submission to GAO of all required fiscal data. Moreover, the head of the GDFS are responsible for the compliance with the MTFS and for the quantification and assessment of all policies pursued by the entity that entailed fiscal implications, as well as for the assessment of fiscal impact of all legal provisions and administrative acts submitted by the entity. In addition, the GDFS of each ministry is

responsible for the fiscal discipline of all General Government entities that are under its supervision and the timely and accurate reporting to GAO of fiscal data of these entities.

Regarding the Commitment of Appropriation, the GDFS certifies, among others, the legality, the regularity and the substantial validity of the future expenditure reserving the right to deny the execution of an order from the Authorising Officer on grounds of legality and regularity.

Regarding the Expenditures, the GDFSs ensure the protection of the financial interests of the State and consequently of the European Union both in the process of the creation of the expenditure and at the payment procedure, while regarding the Payment Procedure, the main responsibilities relating to the process of payments belong to the GDFSs of line ministries and include, among other, the control for expenditures' fulfilment of legality and regularity requirements, the clearance of the expenditure, the issuance of the payment voucher and the final execution of the payment.

Hence, the GDFSs are solely responsible for the control and clearance and the payment of public expenditures, performing a comprehensive and integral control of the legality and the regularity of the expenditure and the overall procedure. The clear implication is that, as a result of the above, the entire process starting at the authorization of an expense and ending at the payment order to the Bank of Greece will be conducted within each line ministry's financial services, meaning that not only is the process streamlined to a significant degree, but furthermore line ministries (spending ministries), as well as the rest of General Government entities, are granted independence with respect to the management of their fiscal affairs and are made solely responsible for them. At the same time, the Ministry of Finance - GAO focuses on strengthening its competencies related to short-term and medium-term fiscal planning, fiscal oversight and surveillance of the entire General Government and the performance of audits, without however actively participating in the payment process of every single expense of the State.

2. ***The General Directorate of Public Investments and NSRF (GDPI)***: The GDPI is in charge of the projects' registration in the Public Investments Program (PIP) and of coordinating, supervising and executing the PIP.
3. ***The General Secretariat for the Coordination (GSCO)***: The GSCO coordinates the government work as regards policies for economic growth and development. According to Article 26 of the Law 4622/2019, the GSCO monitors the implementation of reforms. In the RRP context, it has the responsibility to confirm the successful completion of the reforms and the relevant milestones and to inform the RRFA through regular and/or exceptional reporting.
4. ***The Hellenic Court of Audit (HCA)***: The supreme financial court and audit institution that has (among others) advisory (consultative) and auditing competences, pertaining mainly to auditing the expenditure of the State and Local Agencies, or other Entities subject to its audit by special laws, auditing contracts of large financial value made by the State or a Legal Entity equivalent to the State and auditing the accounts of public accounting officers and Local Government Agencies.

Pursuant to OBL, the Greek Judicial Authority carries out external audits of the financial statements and accounts of all public sector entities. The constitutionally structured audit system of the Court consists of three distinct, equally concurrent and prudent forms of audit: (a) The audit of the Greek State's, the Local Government's and the Legal Entities' expenditure, (b) the preventive audit of high economic value public contracts prior to their signature, and (c) the ex-post audit of the accounts of the public accountants.

Regarding the high economic value public contracts the CoA examines the legality of the draft contracts and decides whether the contract is to be signed or not, while ex post audits are carried out on a regular basis after the end of each financial year, in order to confirm the accuracy and the correctness of the account's recording, to ensure the regularity and legality of the public expenditure as well as to confirm that no public deficit exists in the public entities' financial accounts. Emphasis is also placed on the compliance with the basic principle of a sound financial management and to the economy, efficiency and effectiveness in the public transactions. These audits are carried out in accordance with the International Auditing Standards of the International Organization of Supreme Audit Institutions (INTOSAI), of which the Greek Court is a member.

5. **National Transparency Authority (NTA):** Independent authority established in 2019 (Article 74 of the Law 4622/2019) with the task of enhancing transparency in the procedures running throughout the public services by designing and implementing a policy framework to identify, prevent and repress acts of fraud and/or corruption. Moreover, pursuant to article 82 of the above mentioned law, the Authority is designated as the Hellenic Anti-Fraud Coordination Service (AFCOS) and ensures cooperation with OLAF, coordinates legislative, administrative and investigative obligations and activities related to the protection of the European Union's financial interests as appropriate. Under this capacity, the Authority has become the point of reception of complaints related to the fight against fraud in Structural Funds. In the framework of RRF projects, similar procedures will be adopted regarding the reception, evaluation and examination of the complaints.
6. **The Central State Aid Unit (CSAU - KEMKE):** The competent authority for State Aid control in Greece and the unique contact point for State Aid issues with EC. KEMKE assesses every draft State Aid measure for its compatibility with State Aid rules, expresses its opinion and has responsibility for notifying the draft measures to EC through State Aid Notification Interactive (SANI) in cooperation with the Decentralized State Aid Unit (DSAU) of the competent Ministry and the body responsible for the measure. KEMKE oversees and monitors the progress of all State Aid cases and coordinates issues at the national level, participating in the formulation of State Aid policy and ensuring its compatibility with the EU law.
7. **Authority for the Examination of Preliminary Appeals (AEPP):** The aim of the AEPP (Article 347, Law 4412/2016) is to resolve disputes arising during the phase that precedes the conclusion of contracts for public projects, procurement and services, following the filing of a preliminary appeal. The estimated value of the contracts must exceed 60,000 euros (excluding VAT) and irrespective of their nature.

MCS on projects' lifecycle – Main processes

1. Preparation

The competent Ministries will appoint national bodies to implement the projects of the RRP. To this end, they will have to timely prepare an analytical action plan (masterplan) for each RRP project that falls under their competence. The masterplan will include tasks, timeline, resources, interdependencies with other bodies and the critical path for each project and will be submitted to the RRFA.

The RRFA will initiate the preparation of activities from the next day of submission and the Ministries will submit their masterplans approximately in 6 weeks from that day. The RRFA will collect and compile all the masterplans from all the competent Ministries and will upload them to the RRF Management Information System (MIS).

2. Implementation

The RRFA has designed a robust MCS with control systems in place and audits carried out providing assurance that the funds will be used for their intended purpose, in accordance with the principle of sound financial management, and in line with all applicable rules, particularly rules on avoidance of conflicts of interests, prevention of fraud, corruption and double funding. The MCS applies to all projects' lifecycle, covering the following phases:

- **Phase 1:** Approval Decision, given by the RRFA, and registration of the project in the Public Investments Program (PIP).

Following the acceptance of the EL RRP by the Commission, the implementing bodies, whose administrative capacity to fulfil their obligations under the specific Measure/Sub-project, the financing plan and the timeline for achievement of the milestones and targets will be assured by the submitting Ministry, will have to fill and submit to the competent Ministry and consequently to RRFA, via RRF MIS, a standard document, namely the project's fiche, in order to commence with the implementation of their approved projects. The fiche will include all the data related to each project that were agreed with the Commission, such as the designated Pillar, Measure Type, Subprojects, Milestones and Targets, Timeline etc, as well as the IBs' declaration that they will comply the EU and national rules and fulfil their obligations, and will ultimately be approved and signed by the competent Minister. The RRFA, on the basis of the information submitted, the RRP approved by the Commission and after assessing and evaluating related data, shall issue the relevant approval decision, which consists of automatic integration and registration in the Public Investments Program.

- **Phase 2:** Management of Legal Commitments pursuant to national and EU Laws. Specifically, for public procurements, specialized Approval Procedures will be provided, through which a preventive check is carried out as to the compliance to the Union and national rules of the tendering documents and during the stage of award and modifying the legal commitment of the projects of each subsidized action, in order to ensure compliance to the principles of equal treatment, non-discrimination, mutual recognition, proportionality and transparency. As for state aid, analogous procedures will be provided, while it is worth noting that the same applies for the RRP Loan Facility since its structure, general provisions and operating principles is in essence the same. The above procedures

ensure the timely detection of any irregularities or suspicions / signs of fraud or conflict of interests.

- **Phase 3:** Monitoring, implementation and successful completion of the agreed milestones and targets within agreed timeline.

During the implementation stage, the administrative capacity of all actors will be monitored closely by the RRFA, in cooperation with the competent Ministry, and relevant action will be taken, if necessary.

Moreover, throughout the whole lifecycle of measures/projects, analytical processes will be in place, in order for the IBs' to notify the RRFA on a periodical basis, on the progress made in the achievement of the milestones and targets, with the option to even exploit the common indicators that will be provided by the EC. RRFA will ensure an effective monitoring of the national recovery and resilience plan, including the envisaged timetable, milestones and targets and the related indicators, via the RRFA MIS.

- **Phase 4:** Management verifications and audits, that include both administrative and on-the-spot controls, to ensure the absence of serious irregularities and double funding by a certified external auditor, on behalf of the IB and of the RRFA, if needed.

Within the framework of these procedures, the costs incurred and registered in the RRP MIS, by the Implementing Bodies of the projects, shall be verified through the relevant supporting documents, the achievement of the milestones, the completion of the physical object and the compliance with the applicable national and EU law.

Further, the RRFA will rely on the national, regular, budget management systems and fully exploit the existing and established mechanisms that fully align to EU requirements, such as the comprehensive work performed at the level of the General Directorate of Financial Services (GDFS), in conjunction with the audits performed by the Hellenic Court of Audit, in order to protect the financial interests of the Union and to ensure that the use of RRF complies with the applicable Union and national law, in particular regarding the prevention, detection and correction of fraud, corruption and conflicts of interests.

- **Phase 5:** Audits by EDEL on a semi-annual, annual and 18-month period basis to verify the achievement of milestones and targets, the effective functioning of the IBs' control systems and the legality and regularity of projects' expenditure, respectively.

EDEL's audits will be carried out on the spot and/or at the seat of the General Directorate for the Audits of Co-financed Programs, based on supporting documents and data kept by the audited bodies in information systems and/or in printed form, and which are required to ensure an adequate audit trail. The audit teams will have access to RRF MIS and to any other system/database supporting the management and the implementation of RRF. Furthermore, the existing audit checklists will be adjusted to support RRF audits, in line with the specific provisions of RRF Regulation and Guidances and the procedures of the approved MCS.

- **Phase 6:** Financial corrections and recoveries to be applied to errors with a financial impact, in accordance with the national regulatory framework.
- **Phase 7:** Payment request submitted to EC on a semi-annual basis, by RRFA, accompanied by:

- the management declaration that the funds were used for its intended purpose, that the information submitted is complete, accurate and reliable and that the control systems put in place give the necessary assurances that the funds were managed in accordance with all applicable rules, in particular rules on avoidance of conflicts of interests, fraud prevention, corruption and double funding from the Facility and other Union programs in accordance with the principle of sound financial management,
- a summary of the audits carried out by the Financial Audit Committee (EDEL), including any corrective actions, if needed.

All data referred to the above phases, starting from the projects' approval decisions, the monitoring procedures, the registration of costs and their payments, the results of the verifications of the competent bodies, as well as the results of the audits of EDEL, will be registered in the RRFA MIS and all documentation forms will be kept on it.

All the procedures of the MCS will describe the records that are kept, the way of their registration and the deadline within which they will be registered. All EU involved parties will have access to data stored in the RRF MIS, while relevant provisions shall be included in the approval decisions, contracts and grants / loans agreements, at all implementation phases / processes.

The RRFA MIS will support the registration of the above data, as it is planned to be designed in a "tree structure" and the specific user roles will be determined in accordance with the provisions of the MCS. Specific roles will have specific access rights, depending on the tasks they implement. The above records will be kept for the entire period as set in the Community texts.

The table below presents in brief the main processes of the MCS following the approval of the Greek RRP (and the projects that are listed in it) by the EC.

Phase	Process	Scope	Key Steps
Phase 1: Approval Decision and registration of the project in the Public Investments Program (PIP).	Process 1: Approval decision and registration in the PIP.	Ensure that the project is in line with the approved RRP and that it is registered in the PIP for financing.	<ul style="list-style-type: none"> ● Preparation of the project fiche based on the agreed project's timeline (incl. phases, tasks, milestones/ targets) by the implementing body and submission for approval to the competent Minister/General Secretariat. ● The signed projects' fiche, is forwarded, through the RRF MIS, to the RRFA for final review, verification that the project is in line with the approved RRP and issuance of the project's Approval Decision. ● RRFA's Approval Decision constitutes project registration proposal to PIP. ● The IB appoints a project manager responsible for the close monitoring of the project. ● Registration in the PIP by the GDPI (electronic platform e-pde).

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Phase 2: Management of Legal Commitments	Process 2a: Opinion on the tender document (for Public Projects).	Ensure that the tender document meets the general scope and framework of the RRP, as well as the EU and national law.	<ul style="list-style-type: none"> • The IB prepares the tender documents and submits it for public consultation (for seven working days). • If needed, the IB updates the tender documents to include the comments from the public consultation and then submits the initial tender document, the comments from the public consultation and the updated tender document to the RRFA. • RRFA provides a no objections opinion on the condition that the tender is in line with RRP and EU and national law. • RRFA may be supported by independent experts.
Phase 2: Management of Legal Commitments	Process 2b: Opinion on the call for interest (for State Aid Schemes).	Ensure that the call meets the general scope and framework of the RRP, as well as the EU and national law.	<ul style="list-style-type: none"> • The IB, in cooperation with competent Ministries, prepares the call and submits it to the RRFA and the CSAU, through the DSAU. • RRFA provides a no objections opinion on the condition that the call follows the EU framework and the RRF, taking into account the opinion of CSAU. • In case a notification to the Commission for approval is required, the IB prepares the notification file and submits it to the CSAU for check and submission to DG COMP via SANI. • RRFA may be supported by independent experts.
Phase 2: Management of Legal Commitments	Process 3a: Pre- contractual audit (for Public Projects).	Ensure that the award process is in line with the EU and national law.	<ul style="list-style-type: none"> • The IB carries out the tender process through the national e-procurement system (ESIDIS). • RRFA monitors the award process and gives a no objection opinion as to the process followed and the award of the tender. • For contracts with a high financial value (of more than 5M Euros), the HCA performs an audit prior to the conclusion of contracts.
Phase 2: Management of Legal Commitments	Process 3b: (State Aid Schemes)	Ensure that the award process is in line with the EU and national law.	<ul style="list-style-type: none"> • The IB opens the call for the eligible enterprises to submit their applications. • The IB evaluates the applications and selects the final beneficiaries. • The IB may assign the above tasks (or part of them) to intermediaries.

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Phase 3: Monitoring, implementation and successful completion of the agreed milestones and targets	Process 4: Monitoring and reporting.	Active monitoring and reporting in order to address potential issues or material delays.	<ul style="list-style-type: none"> ● Project progress data on milestones/targets are uploaded, by the IBs, on the RRF MIS that also includes information on projects' expenditure. ● RRFA reviews the progress on the basis of the information provided (and updated regularly) in the RRF MIS. ● The RRF MIS will produce alerts to all involved stakeholders for the update of the time plan, and for any delay in the planned tasks. ● The RRFA, which may be supported by independent auditors, will monitor closely the achievement of all milestones/targets and ensure that the RRF is implemented in compliance with EU and national rules. ● In cases of material delays or weaknesses the IB shall provide justification and a remediation action plan to RRFA. RRFA will assess the submitted action plan and decide accordingly. ● Possible complaints shall be submitted to the NTA (Greek AFCOS), which is the national authority responsible for receiving and examining complaints concerning co-financed programmes/projects. (link to the NTA complaint form will be provided in the RRF site). NTA, EDEL and RRFA will be in close cooperation as to the results of the complaints' examination and the necessary actions needed to be taken. ● In cases where a citizen formally lodges a written complaint to RRFA or EDEL, these agencies inform the NTA in order to perform the initial evaluation of the case and above steps are followed, accordingly. ● If an issue of indication of fraud emerges during all levels of controls/audits, RRFA is being informed and forward it to the competent authority for the investigation of possible suspicion of fraud (NTA), while it is properly disclosed and reported as part of the management declaration. Furthermore, OLAF will be informed accordingly in order to determine whether the opening of an OLAF investigation would be justified.
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Phase 4: Management, Verifications and Audits	Process 5: External certified auditors' controls (audits)	Ensure the successful achievement of milestones and targets associated with RRF funding requests	<p>An independent certified auditor shall conduct administrative and/or on-the-spot checks, to verify, the achievement of the milestones/targets that are associated with RRF funding requests, within the agreed timeline and the compliance of expenditure with EU and national law and the avoidance of conflict of interest, corruption, fraud, and double funding. The relevant reports will be submitted to RRFA, via RRFA MIS, for further evaluation.</p> <p>The legality and regularity of the public expenditure and the compliance with the basic principle of a sound financial management is being achieved by relying on existing and established national mechanisms.</p>
Phase 5: Audits by EDEL	Process 6: Audits on the achievement of the projects' milestones and targets	Verify that the milestones and targets have been achieved pursuant to the national and EU law	<p>EDEL will perform audits on the achievement of milestones and targets, which will be included in the payment requests (on a six-month basis). The scope of these audits is to ensure that funds are used for their intended purpose and the information submitted in the payment requests is complete, accurate and reliable. EDEL's audits will be carried out taking into account the specific elements and the risks of the projects per Component.</p> <p>A multi-period sampling scheme may be prepared, applying both risk and random selection methods, stratifying the sample in semesters and types of actions, milestones and targets.</p> <p>The final audit results will be uploaded to RRFA MIS via an interface with EDEL MIS.</p>
Phase 5: Audits by EDEL	Process 7: Audits on the control systems of the IBs	Verify that the IB's management and control systems have functioned effectively and all weaknesses and irregularities have been properly identified and addressed.	<p>EDEL performs audits on the control systems of the IBs (on an annual basis) and on the RRF Coordination Agency. The main horizontal issues that are checked via tests of controls are whether IBs implement procedures to prevent, detect and correct fraud, corruption and conflicts of interest, when using the funds provided under the RRF, including arrangements aimed at avoiding double funding from other Union Programs, as well as</p>

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compliance with applicable rules. Each IB is rated for its Inherent and Control risk and EDEL sets its audit priorities based on the risk order. The final audit results will be uploaded to RRFA MIS via an interface with EDEL MIS.

Phase 5: Audits by EDEL	Process 8: Audits on the projects' expenditure	Verify the legality and regularity of the expenditure	EDEL performs audits on the legality and regularity of the expenditure (on an 18-month basis), on a sample basis, with emphasis on the avoidance of conflict of interest, corruption, fraud and double funding. The final audit results will be uploaded to RRFA MIS via an interface with EDEL MIS.
Phase 6: Handling of irregularities	Process 9: Financial corrections and recoveries by RRFA and/or EDEL	Verify the legality and regularity of the RRF funds	<ul style="list-style-type: none"> Following the results of the controls and audits, the competent authorities shall investigate any irregularities and enforce any necessary financial corrections and seek recovery of the amounts involved. <ul style="list-style-type: none"> In the case that the certified auditor identifies in its report irregularities, the RRFA will proceed with the appropriate financial corrections/ recoveries. In the case that EDEL identifies such issues, it will be the competent authority to take all remedial actions Financial corrections and recoveries shall be recorded in the RRF MIS by the above competent authorities and disclosed as part of the management declaration
Phase 7: Payment request to the EC	Process 10: Payment request to the EC	Claim financial compensation from the EC	<ul style="list-style-type: none"> The data collected on the results of the controls/audits performed by the independent certified auditor on the achievement of the milestones/targets by the IBs, is overviewed by authorized staff of the RRFA in order to identify any lack of data that must be sought out by the auditor. The authorized staff of the RRFA reviews and evaluates the independent certified auditor's results, cross-check the achievements

of milestones/targets with the RRF MIS and proceeds accordingly.

- The summary of EDEL's audit is being reviewed, examined and assessed, on the basis of drafting the management declaration that will accompany the request for payment.
 - The existence of any serious irregularity is thoroughly examined in all submitted reports and corrective measures are taken.
 - On the basis of the above data reported in the RRF MIS, collected, reviewed and assessed by the RRFA, the latter submits twice a year the payment request to the EC, accompanied by a management declaration of sound financial management and the summary of EDEL's audits, including weaknesses identified and any corrective actions taken.
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Main issues covered during controls and audits

Within the context of the RRP MCS several procedures will be designed to ensure an adequate audit trail and specific measures will be prescribed to prevent, detect and correct irregularities such as fraud, corruption, conflicts of interest and double funding, throughout the whole lifecycle of projects.

The MCS will include such procedures, as described above in Section IV (management verifications, on-the-spot checks) that will apply at all stages, starting from the approval of the projects and throughout their implementation and up until their completion, in order to ensure the timely detection of any irregularities and / or suspicions/indications of fraud, the notification of irregularities to RRFA and other competent bodies, as well as the implementation of other corrective measures.

Procedures will also be provided for preventive checks (e.g. approval of the call for tenders) and verifications (e.g. management verification) that will ensure the timely detection of weaknesses, the detection of irregularities, including those involving evidence of fraud, and the required corrections / recoveries. For the application of the above, the RRFA will make use of the ARACHNE Risk Scoring Tool in order to identify projects which might be susceptible to risks of fraud, conflict of interest and irregularities, and focus the preventive checks and verifications, as a matter of priority, on high-risk actions.

Specifically:

- **Fraud and Corruption:** Addressing fraud and corruption in the context of the co-financed operational programs has always been one of the most critical issues, as evidenced by the

relevant National Anti-Fraud Strategy (hereafter “Strategy”) for the use of Structural Funds that has been developed by the Greek authorities for the NSRF 2014-2020. Prior experience and existing structures, institutions and networks will be used in the proposed MCS for the RRF.

The Fraud Risk Assessment will be carried out periodically and will be based on EC’s Guidelines, and specifically the Fraud Risk Assessment Tool that is formed on the relevant EU Tool. Related Tool is developed on an Excel platform, accompanied by specific Instructions for use, and has predetermined common fraud risks identified in critical processes of the MCS, as well as related corrective measures. The assessment aims to: a) identify the risks, where not enough action has been taken to reduce the likelihood of their occurrence or their impact to an acceptable / tolerable level and b) address the above risks, by selecting / proposing effective and proportionate anti-fraud measures. During the fraud risk assessment process, in addition to the predefined elements of the Tool, other sources of information may also be considered, such as any reports of suspected fraud, audit reports of certified auditors’ of IBs, audit reports of the EDEL or audit authorities of the European Union or other national audit authorities within their competence.

Among the critical processes under consideration are:

- the implementation and verification of projects,
- the certification and payments,
- the public procurement contracts that may be managed directly (e.g. in the context of procuring technical assistance)

For the risk assessment of each of the above processes, a structured process will be followed to quantify the likelihood and impact of the specific fraud risk, assess the effectiveness of the current controls in place to mitigate the gross risk, assess the net risk after taking into account the effectiveness of current controls i.e. the situation as it is currently (residual risk), assess the effect of the planned additional controls on the residual risk, and define the tolerable level of risk.

The RRFA will be responsible for the raise of awareness as regards fraud and will collect, review and evaluate relevant information from the fraud officers appointed in the competent authorities and monitors the implementation.

In cases of suspected fraud detection, corrective measures are foreseen, while the results of the implementation of these are reflected in the re-evaluation next year. Measures to improve or modify the MCS will be provided in a separate procedure, while a separate procedure will also be provided for the examination of indications of fraud and reporting of suspicions of fraud, which will be applied in case such evidence is detected, i.e. when an irregularity is detected with possible fraud. Specifically, this procedure shall prescribe for:

1. the internal examination / investigation actions of a case and the documentation of the above actions,
2. the actions to be taken when the case is suspected of fraud and in particular:
 - a. The notification of the competent Authority (NTA).
 - b. The proper disclosure of related cases to the OLAF.
 - c. The possible adoption of other preventive and corrective measures.

3. the information from the NTA on the results / findings of the competent national authorities in relation to the outcome of the case (follow-up),
4. the actions to be taken, in case of a decision/finding of the competent national authority confirming the existence of fraud. The adoption of measures for the prevention and management of the risk concerns either individual measures that will be implemented by an IB (eg strengthening of the training of its staff), or a proposal for horizontal measures that should be integrated in the prescribed procedures of RRP MCS (e.g. introduction of a new checkpoint in a checklist).

Moreover, to enhance the above anti-fraud procedures, the MCS will adopt a proactive, structured and targeted approach to managing the examination of complaints related to the RRF. A hyperlink to the NTA's website will be available in the RRFA's website, for the submission of complaints.

- **Double funding:** The avoidance, detection and prevention of double funding will be ensured at all stages of projects' lifecycle, through robust procedures structured within the RRF MCS.

First, all IBs will have to declare, via the submitted Fiche in the RRF MIS, that no previous Union funding has been granted for the same project (during the current or previous period).

Moreover, the structure of RRF MIS shall allow for the cross-checking, detection and consolidation of all possible data sources that are related to the IBs funding and systemically shall separate their different EU funding streams. This level of consolidation and transparency will ensure the early detection and avoidance of double funding from the RRF and other EU programs, while it will act as a preventing factor for the IBs. The data collection and consolidation will be heavily relied on synergies and interoperability between the different information systems, while double funding cases will be flagged through (existing) Business Intelligence tools. For example, the RRF MIS, which will be developed in the same platform as the NSRF, will be able to exchange data and apply cross-checks with all the different EU related data sources, such as the NSRF, CEF etc. Accordingly, the RRF MIS will be interoperable with other information systems of the Public Sector, such as the PIP MIS "e-PDE".

Further, an additional safeguard to prevent double-funding between the programs under RRF, will be the assessment of the use of electronic invoices on the basis of the new OpenPEPPOL protocol. In this way each invoice will be unified within the MIS and therefore could not be financed from another source.

Finally, the independent external auditors will also examine during their audits the existence of a possible double funding. Audit reports will be performed at all phases of the project and uploaded to the RRFA MIS, followed by a declaration of non-receiving double funding for the same project (or milestone). Moreover, EDEL will also cover the above issue during its audits.

- **Conflict of interest:** Pursuant the guidance from the EC¹¹⁰, the focus of the MCS will be placed on prevention, detection and appropriate correction of conflict of interest cases, if needed. Considering the RRFA's commitment to transparency, it will provide all involved parties with clear information about their obligations regarding conflicts of interest and with provisions or cross-references to legal provisions on those obligations and the consequences of their violation, in i) procurement documents, ii) work programmes iii) calls for proposals, iv) procurement contracts, v) grant agreements, vi) contribution agreements and vii) financing agreements. The RRFA will put in place a policy related to conflicts of interests to mitigate the risks and to tackle possible cases. Therefore, analytical procedures will be designed as a part of the MCS, tools will be provided to help to identify the existence of a possible conflict of interest and a relevant list of red flags will be available to detect such situations.

All involved parties will declare in writing, the absence of conflicts of interest and that if such risk arises, the person shall report it to its hierarchical superior, who accordingly shall confirm in writing whether a conflict of interest exists (and the person concerned is obliged to refrain from any related action). The hierarchical superior will exercise judgement and carefully consider whether someone who is aware of the relevant facts would be likely to think that the organisation's integrity is at risk from an unresolved conflict of interest. When it is established that a conflict of interest has arisen, the relevant authority must ensure that the staff member concerned ceases all relevant activities. Because the situation changes, adequate declarations of absence of conflict of interests are followed up and updated, given the circumstances.

The RRFA shall supervise the IBs and all actors involved in the above procedure and the fulfilment of their duties, while it considers the use of ARACHNE to identify projects, which might be at risk of conflict of interests.

Finally, the audit reports issued by the certified external auditors, at all stages of the projects, and by EDEL, will also cover issues relating to the detection of non-existence of conflict of interest.

- **Corrections:** Financial Corrections will be applied to errors with a financial impact, in accordance with the national regulatory framework. The financial corrections relate to the cancellation of all or part of the Community and/or National participation in a project, within the framework of its financing by the RRF, and the correction is proportionate to the irregular expenditure found.

Any expenditure that will not correspond to any product, project or service delivered of equal value, in accordance with the terms of the relevant decision through which the obligation of the expenditure was undertaken, will be considered to be an unduly paid amount.

When above cases occur and are evident and documented in the control/audit reports, the recovery process is being initiated, by the competent authority, meaning the return

¹¹⁰ "Guidance on avoidance of conflicts of interest under the Financial Regulation", European Commission (July 2020)

of the unduly or illegally paid amounts by the recipient of the financing for illegal purposes.

RRF Management Information System (MIS) and RRFA's website

The management and control of the projects under the RRF will rely on a new information system, the RRF Management Information System (MIS). The RRF MIS is developed on the existing platform of the NSRF MIS of the Ministry of Development and Investments, ensuring that maximum synergies will be achieved and thus double funding from the Facility and other EU programs will be avoided.

The RRF MIS, where all the necessary data of the projects will be registered, is designed as the main tool for the management and control of the projects and reforms and aims at the reliability of submitted data and the transparency. It will support the processes of the MCS (monitoring, verifications, audits) and include all standardized categories of data foreseen in the article 22 of RRP Regulation that is implementation data supporting the financial management and implementation of milestones and targets, and data on final recipients of funds, as well as it will produce the necessary reports. Records of the above data will be retained on MIS in accordance with Article 132 of the Financial Regulation. The development of the new RRF MIS and its adjustment to the existing NSRF MIS platform is already in process. Several procedures, such as the Analysis and Design Document, the Database Parameterization, the Contracting workflow have already been started, and others concerning the Loading of the Approved RRF data, the Monitoring and Control workflow and software are being planned to be fulfilled within the next months.

The first basic operations are expected to be completed and functional by the end of Q3 2021, while it is estimated that the RRF MIS will be fully operational by the end of year 2021. That means that before the 1st payment request, the IT system will be ready for the RRP projects' initialization and approval data to be uploaded, as well as any other information on the launch of tenders and award of contracts. Following the above and till the end of the year 2021, the IT system will support the processes of the MCS (monitoring, verifications, audits), include all standardized categories of data foreseen in the article 22 of RRP Regulation, report on the achievement of M/T and provide sufficient information as to the controls and audits performed, the existence of any irregularities and any corrective actions taken.

As previously mentioned, the RRF MIS will be interoperable with other Public Sector Information Systems such as the E-pde Payment System, the State Aid Information Systems, the national e-procurement system (ESIDIS), the Transparency Portal DIAVGEIA, and also with the Information Systems of the IBs, where applicable. The interoperability of the ISs will provide maximum coordination with other responsible bodies, reduce administrative burden and ensure greater transparency and efficiency in the management and control process. Access to the RRF MIS will be given to all involved EU parties (Commission, European Court of Auditors, OLAF and the EPPO), as well as EDEL.

Furthermore, RRF MIS will be supported by an Information Security Management System, which meets the requirements of the relevant ISO standards. The applied security scheme will ensure the security, integrity and confidentiality of the data and verification of the identity of the sender. The processing of information will ensure the protection of the privacy of personal data of natural persons and the protection of the confidentiality of legal persons.

Finally, the RRFA will use its website, which will be developed and be fully operational upon RRP's approval, to disseminate information about the projects. Useful material, including the description of the projects, related documents, progress updates and information regarding the legal framework will be posted to ensure that all involved parties have the necessary information to carry out their duties and implement the relevant processes. Standard forms will explicitly and clearly identify the information for the submission of the related documents and fiches of the projects. Instructions and checklists will also be provided. The material will be updated periodically to include all changes in legislation and in the guidelines and texts adopted by the Commission, amendments to the national and Union regulatory framework, possible modifications in Union policies. All stakeholders will be informed about these changes in a timely manner. The publication and sharing of the above data will ensure a high level of transparency in the MCS. Finally, a direct hyperlink to NTA's website will also be added, as the competent national authority to address complaints concerning the RRP projects.

Consultation Process

The consultation process on the National Recovery and Resilience Plan has been very transparent and has started from the early stages of preparation of the Plan involving the widest possible scope of participants.

In order to best coordinate the designing of the National Recovery and Resilience Plan, a Steering Committee comprising the Alternate Minister for Finance Mr Th. Skylakakis, the Deputy Minister for Government Coordination Mr. A. Skertsos, the Secretary General for Public Investments and the Growth Pact Mr. D. Skalkos, the Chief Economic Adviser to the Prime Minister Mr. A. Patelis and the Head of the Council of Economic Advisors, Ministry of Finance, Mr. M. Arghyrou was set up in July 2020.

The Steering Committee, acknowledging that dialogue, at national and European level, plays a key role in shaping economic, labour and social policies that promote the upward convergence of living and working conditions across Member States, has adopted, since the beginning of the drafting process of the Greek RRP, a bottom-up validation process and engaged in a constructive dialogue with all stakeholders and the Greek society at large.

The consultation process was conducted in two main phases, the first one, prior to the submission of the draft national plan and the second, shortly afterwards.

The first phase of consultation took place between July 2020 and November 2020. During this time written contributions were invited and workshops were held with industry, key social partners and other stakeholders in order to incorporate in the national draft proposal their views and recommendations on reforms and investments.

Meanwhile, an active engagement with the Pissarides' Committee was maintained; the Pissarides' Committee was appointed by the Greek Prime Minister before the pandemic with the aim to submit a long-term strategy for the growth of the Greek economy during the Fall of 2020. On July

14th, 2020, the Committee made a special presentation to the Prime Minister, the economic cabinet of the government and the Steering Committee of the RRP, with an interim report of their plan, in order for them to use it as a guide in the drafting of the Plan.

On August 5th, 2020, the Steering Committee requested from all social partners, other key economic associations, NGOs and the federation of municipalities, 24 organisations in total (Appendix, Table 1), to provide by August 31st their input for the National Recovery and Resilience Plan. Seventeen organisations out of the 24 responded by sending in their proposals which were all carefully examined by the drafting working group of each pillar.

In addition, separate workshops were held during the drafting period between the members of the Steering Committee and key economic stakeholders in order to further elaborate on their submitted proposals.

Following the submission of the draft NRRP on November 18th, 2020 to the European Commission, a comprehensive draft Plan (General Objectives, components and description of reforms and investments) was presented to the public on November 25th, 2020 and it was posted on the Ministry of Finance's website.

A formal twofold public consultation process was launched on the same day.

The one part of the consultation process was carried out through the Economic and Social Committee of Greece/ESC (the national chapter of the European Economic and Social Committee), which was invited to deliberate with its members and send comments by December 20, 2020.

The Greek ESC was established in 1994, based on the model of the ESC of the European Union: tripartite division of the interests represented: (a) employers/entrepreneurs, (b) private and public sector employees and (c) other categories, such as farmers, self-employed people, consumers, environmental protection organisations, the confederation of persons with disabilities, gender equality organisations, and the local government (Appendix, Table 2).

The objective of the ESC is to promote social dialogue and through it to formulate mutually acceptable positions on issues of concern to society as a whole or specific social groups. Through its proposals and opinions, it also seeks to maximise the social benefit or minimise any possible negative effects of decisions taken by the executive and the legislative.

The second part of the public consultation process, aiming to engage the public at-large, ran in parallel with the institutional one of the Greek ESC, during the same time period, using the official government consultation portal, www.opengov.gr. The portal www.opengov.gr has been specifically designed to serve the principles of transparency, deliberation, collaboration and accountability and serves as a focal point for electronic public consultation. Almost every piece of draft legislation or government policy initiative is posted on this platform prior to final adoption. Citizens and organisations are invited to post their comments and proposals.

All the contributions submitted during the public consultation were thoroughly considered and a public consultation report comprising the key findings and recommendations was prepared and

posted in opengov.gr (as provided for in Art.61 of Law 4622/2019) as well as on the website page of the Greek National Recovery and Resilience Plan.

In addition, separate meetings on specific aspects/components of the NRRP were held with selective stakeholders. Separate meetings were also held with Governors of the Regions and Mayors, throughout the period of preparation, designing and drafting of the NRRP.

The vast majority of the contributions received have adopted a positive approach towards the National Recovery and Resilience Plan and its main goals, recognizing that it represents a unique opportunity for the Greek economy and society.

Those among them that complied with the Regulation's eligibility criteria, were either included in the Plan or helpful in fine-tuning certain reforms and/or investments.

The following selected examples illustrate how stakeholders' views are reflected in the Plan:

- The investments on energy storage in the electricity system, which will enhance RES share in final energy consumption, were allocated a bigger budget.
- The preparation of a detailed study, strategy and financing mechanism for the gradual renewal of the passenger ship fleet and the reduction of the CO2 impression has been added to the investments.
- Specific projects were either enriched or added, in order to enhance accessibility especially in digital transformation and skilling programs (e.g. reform enhancing independent living for persons with disabilities; investment for digital training of persons with disabilities; investment for the digital transformation of the social welfare system with a special focus on persons with disabilities; investment on tourism development which improves accessibility to beaches for persons with disabilities; investment on improving the experience of persons with disabilities in cultural venues).
- The reforms of the Primary Health Care system and the National Public Health Prevention programs have been considerably enriched.
- The reforms related to active labour market policies including evaluation systems, quality controls and certification, to labour force skilling and to vocational education and training as well as to the apprenticeship system have been enhanced.
- The budget devoted to flood protection, including an early warning system, has increased.
- The same goes for the budget allocated to the digitalisation, interconnection and interoperability in the public sector and the new technology cash registers reforms and investments.
- A project on the establishment of new industrial parks was added.

After the NRRP was redrafted, following the input collected in the consultation process and the comments received from the European Commission through the principals and technical meetings, it was endorsed by the Council of Ministers on March 29, 2021.

On March 31st, 2021 it was presented to the public by the Prime Minister and the members of the Steering Committee. On the same day, a presentation of the Plan accompanied with an extensive list of reforms and investments was posted on the dedicated webpage.

On April 6, 2021 the NRRP was extensively discussed, in a more than 9 hour-long session, with the members of the competent parliamentary committees (Standing Committee on Economic Affairs, Standing Committee on Social Affairs, Standing Committee on Production and Trade and Special Standing Committee on European affairs) and the Greek MEPs.

Moreover, on April 21, 2021, a web conference with the Central Union of Municipalities of Greece was held, focusing mainly on the Plan's implementation. It should be noted that the conference was attended by a large number (over 300) of Mayors.

Steps to follow

Once the NRRP is approved, it will be introduced before the Parliament to be debated and take the institutional form of Law. Additional consultation with the key stakeholders is provided for in this procedure, with a view to further engaging them in the implementation phase. At the same time, a series of public events are being planned in order to get people more involved and, thus, increase ownership of the Plan.

APPENDIX

Table 1 Organisations that submitted proposals to Steering Committee for the needs of NRRP

Productive Bodies & Social Partners	Request for proposals	Proposals sent
Hellenic Production – Industry Roundtable For Growth	5.8.2020	29.9.20
Federation Of Industries Of Sterea Ellada Region	5.8.2020	31.8.20
Federation Of Industries Of Attica Region	5.8.2020	27.8.20
Federation Of Industries Of Peloponnese And Western Greece Region	5.8.2020	
Federation Of Industries Of Thessalia Region	5.8.2020	
Aluminium Association Of Greece	5.8.2020	

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Hellenic Association Of Brewers	5.8.2020	29.9.20
Federation Of Recycled And Energy Recovery Industries & Enterprises	5.8.2020	
Federation Of Hellenic Food Industries	5.8.2020	31.8.20
Hellenic Association Of Chemical Industries	5.8.2020	
Greek Federation Of Spirits Producers	5.8.2020	31.8.20
Greek Exporters Association	5.8.2020	
Hellenic Association Of Pharmaceutical Companies	5.8.2020	31.8.20
Union Of Hellenic Chambers Of Commerce	5.8.2020	31.8.20
Society For The Environment & Cultural Heritage	5.8.2020	6.10.20
HELLENIC FEDERATION OF ENTERPRISES And Industries	5.8.2020	3.11.20
ΓσΕΕ - Trade Union Confederation	5.8.2020	
Hellenic Confederation Of Professionals, Craftsmen & Merchants	5.8.2020	7.9.20
Federation Of Industries Of Greece	5.8.2020	25.9.20
Greek Tourism Confederation	5.8.2020	31.8.2020
Hellenic Confederation Of Commerce And Entrepreneurship	5.8.2020	31.8.20
World Wide Fund For Nature - Wwf	5.8.2020	6.10.20
The Central Union of Municipalities of Greece	5.8.2020	31.8.20
Crafts Chambers Of Attica	5.8.2020	8.9.20

Table 2 Members of the Greek Economic and Social Committee

Group of Employers (Group A)

The Hellenic Federation of Enterprises (SEV)
The Hellenic Confederation of Professionals, Craftsmen and Merchants (G.S.E.V.E.E.)
The Hellenic Confederation of Commerce and Entrepreneurship (ESEE)
The Association of Greek Tourism Enterprises (S.E.T.E.)
The Union of the Hellenic Bank Association (E.E.T.)

The Union of the Greek Shipowners (E.E.E.)
The Association of Greek Contracting Companies (S.A.T.E.)
The Hellenic Federation of Building Contractors and Developers (OM.K.O.E.E.)

Group of Employees (Group B)

The Greek General Confederation of Labour (G.S.E.E.)
The Supreme Administration of Greek Civil Servants Trade Unions (A.D.E.D.Y.)

Group of other Categories (Group C)

The Panhellenic Confederation of Unions of Agricultural Cooperatives (PA.S.E.GE.S.)
The General Confederation of Greek Agrarian Associations (GE.S.A.S.E.),
The Lawyers Coordinating Committee
The Greek Medical Association (P.I.S.)
The Central Union of Hellenic Chambers (K.E.E.E.)
The Technical Chamber of Greece (T.E.E.)
The Economic Chamber of Greece (O.E.E.)
The Geotechnical Chamber of Greece (GEO.T.E.E.),
The Consumers
Environmental protection organizations
The National Confederation of Persons with Disabilities (E.S.A.E.A.)
Gender equality organizations
The Central Union of Municipalities of Greece (K.E.D.E.)
Association of Greek Regions (EN.P.E.).
The Supreme Confederation of Large Families of Greece (A.S.P.E.).

Controls and audit

Pursuant to the Law 4738/2020, the lead body **tasked with the central and overall coordination and monitoring of the RRP** is the RRF Coordination Agency (RRFA), a newly, independent special public service, established in the Ministry of Finance with the mandate to serve as the responsible body for the efficient use of the EU recovery funds deriving from the RRF.

The RRFA will acquire the **administrative capacity needed** (staff number, staff profiles, institutional experience and expertise) to meet its mandate. According to its current organizational structure, it has 40 staff positions in total, which may be amended to fully reflect the processes of the Management and Control System (MCS). Given that the RRFA is a newly established service, the staffing procedure is in progress and a certain number of experienced staff has already joined the Agency, while it is estimated to be completed in due course. In addition, and if deemed necessary, the RRFA may also entrust to externals/experts the task of performing certain assignments on its behalf.

The RRFA will also be the responsible body to **verify that the set milestones and targets of the RRP have been successfully achieved** and will also act as the (single) liaison between the European Commission and the Greek authorities. Specifically, its tasks entail the **active monitoring of the progress** of the projects, on the basis of the agreed milestones and targets, and the **submission of the payment requests** to the European Commission upon verification of their achievement. The latter will be accompanied by a management declaration that the funds were used for its intended purposes and in accordance with the principle of sound financial management, as well as by a summary of the audits carried out, including weaknesses identified and any corrective actions taken.

The competent Ministries will appoint national bodies to implement the RRP projects. These implementing bodies will have the **adequate administrative capacity** and their structure will ensure complete independence in the exercise of their responsibilities at each distinct stage of project implementation and control. Moreover, they will have **long experience in co-financed projects and expertise** to implement the projects, while they will bear their ownership and the full responsibility for the achievement of the agreed milestones and targets. To this end, they will appoint a project manager that will be responsible for the project's implementation and will act as the single point of contact between the Ministry and the central coordinating body, the RRFA.

Each Ministry will prepare and submit to the RRFA an analytic project plan (masterplan) for each project under their competence, which will include, among others, tasks, timelines, resources, interdependencies with other bodies, etc. The masterplan will be the detailed and helpful roadmap for each project and will play a critical role in its successful implementation.

The procedures, data sources and indicators that the RRFA will use to verify that the milestones and targets were actually met will include the reports from the implementing bodies to the RRF Management Information System (MIS) on the completion of the milestones and targets, accompanied by a verification report from an independent certified auditor, selected and appointed from the Official Register of the Hellenic Accounting and Auditing Standards Oversight Board (HAASOB). The RRFA shall provide guidance for use by the IBs' auditors on the scope of the work to be done and the reports to be presented. Audits on the fulfilment of the agreed milestones and targets will also be implemented by the Financial Audit Committee (EDEL) that is the national audit authority for ESI funds.

The RRF MIS will be the main tool for the management and control of the projects and for ensuring the reliability of data and transparency. All data related to the projects' approval

decisions, monitoring procedures, registration of costs and their payments, results of the verifications of the competent bodies, as well as the results of the audits of EDEL, will be registered in the RRF MIS and all documentation forms will be kept on it. This level of consolidation and transparency will also ensure the early detection and avoidance of double funding.

All EU involved parties will have access to data stored in the RRF MIS, in accordance with GDPR principles, while relevant provisions shall be included in the approval decisions, contracts and grants or loans agreements, at all implementation phases. **To ensure that the necessary data on final recipients is gathered and stored**, the different bodies involved will refer to their project manager, who will be responsible for the data exchange between the Ministries and the RRFA.

The MCS described in the previous section states the procedures that are in place to ensure compliance to applicable Union and national law, throughout the implementation of all measures. Furthermore, it **clearly addresses all serious irregularities (fraud, corruption, conflict of interest) and double funding** by allowing for controls and audits to be implemented in separate and distinctive levels.

In particular, **during the first level**, independent certified auditors will implement audits on behalf of the implementing bodies to verify i) the fulfilment of the agreed milestones and targets that are associated with RRF funding requests, ii) the compliance with EU and national law and iii) the avoidance of serious irregularities and double funding.

On top of the above and upon discretion, RRFA may entrust to external auditors to perform verification of milestones and targets achievement, on its behalf. Moreover, EDEL will support the **second level audits**, as part of its mandate/authority to exercise such tasks being the competent Audit Authority for ESI Funds and exercising the functions of the Audit Authority under shared management since 2001, for three consecutive programming periods.

The structure and content of the **Audit Strategy** will include:

- The status and mission statement of EDEL in the framework of RRP, as well as justification of its functional independence from the other Bodies of the MCS.
- The description of the Risk Assessment Method to set audit priorities, for the selection of MCS Bodies and specific-horizontal issues to be audited.
- The reference to the international audit standards, guidances and methods applied by EDEL, with a clear reference to the audit methodology applied, the sampling method used, the procedures for the reporting and the treatment of weaknesses/irregularities, as well as the procedure for the assessment of the Management Declaration and the Payment Requests (with reference to internal deadlines).
- The description and justification of the audit priorities and specific objectives with an explanation of the linkage of the risk assessment results to the audit work planned.

Pursuant to above Audit Strategy, EDEL will implement audits 1) on the fulfilment of the agreed milestones and targets, which will be included in the payment requests to the European Commission, 2) on the control systems of the implementing bodies, and 3) on the legality and regularity of the expenses, in order to provide reasonable assurance for the functioning of the control system, as well as for the accuracy and reliability of the payment requests.

In terms of administrative capacity (staff numbers, staff profiles, institutional experience and expertise) to perform these tasks, EDEL will establish a new Unit with additional staff positions, while the option of outsourcing some of the audit tasks will be also foreseen. The current functioning of its services (apart from the RRP projects) is not expected to be negatively affected, as it plans to reinforce its human resources. The mandate of EDEL to audit RRF will be provided in a dedicated national legal act for RRF, which will include all involved actors, as well as management and control system responsibilities and procedures.

Within the context of the RRP MCS it is **indicated that data will be provided to the single data-mining and risk-scoring tool** that will be made available by the European Commission. The RRFA will assess the various applications of the ARACHNE Risk Scoring Tool and its use, in order to identify projects which might be susceptible to risks of fraud, conflict of interest and irregularities, and focus the preventive checks and verifications, as a matter of priority, on high-risk actions.

Furthermore, the RRP MCS prescribes for the analytical procedures designed to ensure an adequate audit trail and specific measures to prevent, detect, and correct irregularities such as **fraud, corruption, conflict of interest and double-funding**. Prior experience from the use of ESI funds and existing structures, networks, procedures and tools (e.g. Fraud Risk Assessment Tool) will be used and exploited for the RRF, as well.

Moreover, to enhance transparency in the procedures of the RRP and to prevent fraud, the MCS will adopt a proactive, structured, and targeted approach to manage the examination of complaints related to the RRF. A special, dedicated authority, the National Transparency Authority, which by law is designated as the Hellenic Anti-Fraud Coordination Service (AFCOS), will become the point of reception of complaints related to the fight against fraud in the RRF, as already is for the ESI funds. As analytically prescribed in the RRP MCS, close cooperation with OLAF and other national audit bodies has been designed in order to ensure the protection of EU and national financial interests.

Communication

Objectives and target audiences

The implementation of the Communication Strategy of the NRRP of Greece aims to:

- Provide **coherent and effective information to multiple audiences** regarding the reforms and investments undertaken by Greece under the RRF, giving emphasis to audiences that «need to know» specific information in order to respond to the opportunities, obligations etc. connected to the NRRP (people directly affected by investments or reforms included in the NRRP), including the wide dissemination of funding opportunities for potential recipients.
- **Increase awareness** of the NRRP's objectives, tangible benefits and impact on citizens' daily life.
- Give easy access to information on funded projects and reforms of the NRRP, facilitating the opportunity of any interested citizen or group to follow up on its implementation and thus promote the efficiency and transparency inherent to the NRRP, throughout the implementation period.
- **Inform, coordinate and support recipients to design and implement their own communication actions by providing guidelines, monitoring and networking.**
- Introduce a citizen focused approach by telling project stories “on the ground” or locally so as to **mobilize community participation** and build up a sense of ownership of the Plan.
- **Ensure** the visibility of EU funding and provide the opportunity to citizens to fairly judge the difference made in their lives by the RRF as both a national and an EU policy instrument.

The European dimension of the NRRP and the related projects will be highlighted through agreed communication assets (visibility of EU funding in all communication materials) and focused communication activities (e.g., joint press events with the participation of the European Commission at key communication moments throughout the NRRP implementation).

The four pillars of the NRRP (Green Transition, Digital Transformation, Employment, Skills & Social Cohesion, Private Investment & Transformation of the economy) allow the promotion of **powerful positive messages** that are connected with the country's new post-COVID profile:

- Green
- Digital
- Outward-looking
- Competitive
- Accessible

The **audiences** include the following categories:

- General public (NRRP level).
- Press and Media national and local coverage on plan and project level.
- Projects & reforms target audiences (identified under reform or project-specific users/beneficiaries, thematic scope, geographical/regional allocation, experts/non experts).
- Project recipients (e.g., national, regional and local institutions, SMEs and their associations, private investors).

The Communication Strategy seeks to bring the NRRP closer to the citizens by **translating technical terms into simple, clear and reliable messages**:

- The NRRF in a nutshell
 - The 4 pillars of the NRRF (Green Transition; Digital Transformation; Employment, Skills, and Social Cohesion; Private Investment and Economic & Institutional Transformation).
 - Key reform and investment projects
 - Financial resources data and its allocation (grants, loans)
 - Main recipients of financial resources (e.g., Government/Ministries, Local Government, SMEs)
 - Implementation timetable
 - Support of fundamental growth towards transition on a European level, as part of the NextGenerationEU Plan.
- How the NRRF will contribute to the recovery of the Greek economy
 - Elimination of inhibitors of economic growth (low level of productive investment, low productivity level, unemployment and low employment level).
 - Contribution to key macroeconomic figures (GDP, investment, unemployment rate).
 - Improvement of Greece's competitiveness position/ranking.
 - Reduction of the digital gap between Greece and the EU average.
- How the NRRF will benefit every citizen
 - Creation of new employment opportunities in multiple and more resilient sectors.
 - Creation of a business-friendly environment to foster entrepreneurship.
 - Improved access to modern, customer-friendly and efficient public services.
 - Improved quality of life and the environment.

The Communication Strategy will follow a **people-centred approach** to connect citizens with the NRRF and the EU.

Communication activities/channels

Communication activities / Twofold communication plan under a common communication platform:

Level 1: A central campaign for the NRRP (Timing: Approval of the NRRP)

- Branding: "**Greece 2.0**" was selected as the communication title of the National Recovery and Resilience Plan, highlighting the evolution/upgrade of the Greek economy and society. Foster identification of Greece 2.0 with RRF and the European Union
- Promotion and explanation of the main messages under the 4 pillars.
- A central Coordinating Committee will be responsible for the central campaign.
- The campaign will run on a national level.

Level 2: Project-specific (reforms/investments) targeted campaigns under the 4 pillars:

- Selection of key reform/investment projects per pillar

- Design and implementation of communication activities tailored to the nature/sector of the project and addressed to direct beneficiaries or/and end users.
- Cooperation with the relevant Authorities and Ministries per pillar and project to ensure synergies and multiplier effect.
- The campaigns will run on a national **and regional/local level, or at a sectoral level** depending on the various target groups of each project.

Communication Criteria | to be followed throughout the plan and activities

Criterion 1: Emphasis on usability of the NRRP (people-centred approach)

- A clear identification, structure and documentation of potential direct and indirect benefits associated with the implementation of the NRRP and the related projects (full range benefit identification, quantitative and qualitative information, establishment of detailed benefits profiles for each key benefit, use of testimonials)
- Matching pillars and projects of the NRRP with specific groups/beneficiaries.
- Citizen engagement that will foster active participation through the entire implementation phase of the NRRP, facilitate commitment and build a culture of public ownership of the NRRP.

Criterion 2: Reliability of information, transparency and accountability

- Provision of timely and accurate information to the public throughout the entire cycle of every project under the NRRP (initiation, planning, execution, monitoring, closure)
- Provision of real time, up-to-date information per pillar and project of the NRRP, applying data visualisation techniques.

Criterion 3: Highlight the European dimension of the NRRP

- The NRRP of Greece is part of the EU ambitious innovative plan to achieve a long-term sustainable and inclusive recovery in Europe, promoting the green and digital transitions (twin transition).
- The emblem of the European Union with the funding statement “funded by the European Union–NextGenerationEU” will be prominently featured on all communication materials (visibility of the EU funding, visually and verbally) produced by the RRF Coordination Agency and the project recipients.
- A wide range of joint activities with EU institutions (European Commission, European Parliament) will be determined per pillar and key project at various levels (e.g. design common events/press releases for milestone achievements, visits or events with Commissioners and other EU officials, joint social media campaigns on key pillars, selected key projects or regions etc.).

Communication Channels

- 1) A **dedicated website** for the NRRP and the related projects will be established in order to provide a single-entry point for all interested parties (institutional organisations, recipients, enterprises,

media, general public) who wish to get information, and a destination hub for all communication materials. The website will feature:

- The main information of the NRRP (objectives, aims and priorities, main pillars and thematic areas, key reform and investment projects, total amount allocated etc.).
- Calls for projects (the entire life cycle)
- List of reform and investment projects.
- Monitoring/Update of the implementation of the NPPR and the related projects.
- Achievements and results (data and examples of specific projects under implementation, KPIs etc.).
- Communication material (press events & coverage, campaign content, etc.)
- Human centric content: Projects' storytelling to enhance the comprehension and the benefits of the plan, by showcasing the real-life impact on the citizens' life. The website will have a responsive template for mobile devices and will conform to international standards for web accessibility WCAG 2.0.

The content of the website will be presented in a clear, simple and well-structured way (e.g., number and quality of figures/tables, infographics, data visualisation), using friendly language enabling people to easily understand the NRRP.

- 2) In an effort to increase the visibility of the NRRP and the EU role and funding the Communication Strategy will **integrate multiple activities/channels**:
 - **Communication through traditional media** (e.g. TV, newspapers, radio, outdoor) that help to increase visibility of the NRRP (key messages), including the European dimension, on a national and/or regional level.
 - **Communication through Digital Campaigns on various platforms/digital media** (e.g., Google, YouTube, Social Media, news and information websites) to enhance awareness and reach specific audiences with dedicated content, optimised accordingly to increase efficiency.
 - **PR Communication Plan**: Promotion of **strong media coverage** of the Plan and specific projects through events (virtual and with physical presence), development of media relations, press conferences, distribution of press releases, journalists' visits to the projects,
 - Design and production of communication material to be used in the aforementioned communication channels including audiovisual productions for TV, radio, digital and social media, online and printed publications, social media posts, infographics, printed and digital ads and promotional material.

Selected key projects

The Communication Strategy will specifically focus on **selected key projects (investments and reforms)** per pillar that are consistent with the objectives of the NRRF for more active promotion and extensive communication:

Pillar 1: Green Transition

- Incentives for energy efficiency investments (residential buildings, businesses, public sector).

- Electricity interconnections of the Greek islands and energy storage investments.
- National reforestation plan and biodiversity investments

Pillar 2: Digital Transformation

- 5G corridors, fibre optic infrastructure in buildings and digital interconnection of the Greek islands.
- Digital transformation in the public sector (health, education, Justice etc.), including central cloud computing infrastructure and service and digital interoperability within the general government & CRM for the general government.
- Full digitalisation of the tax authorities, usage of new methods against tax evasion (audits using AI, online monitoring of transport of goods etc.) and introduction of online cash registers and POS and e-invoicing for the totality of the private sector.

Pillar 3: Employment, skills, and social cohesion

- Labour law reform (modernisation & simplification), introduction of active labour market policies, big investment in reskilling and upskilling of the labour force (emphasis on digital skills).
- Investments for the social integration of vulnerable groups, assisting the access to the labour market of people with disabilities and facilitation of the creation of childcare units within company premises.
- Reform of the primary health care system and implementation of the national public health prevention program.

Pillar 4: Private investment and transformation of the economy

- Reforms for the simplification of the business environment, ease of doing business (ID: 16591) and investment support.
- Strong incentives for private investment (green, digital transformation of SMEs (ID: 16706), smart manufacturing, R&D).
- Public private partnerships in big new infrastructure projects (Irrigation projects, railway modernisation etc)

1. Coordinated activities with the Commission

As mentioned in section 2, a wide range of joint activities with EU institutions (European Commission, European Parliament etc) will be planned and implemented per pillar and key projects (identified in section 4) and will take different forms at relevant levels indicatively including e.g. organisation of common events, issuing of press releases for milestone achievements, projects visits or high-visibility events with Commissioners, MEPs and other EU officials, joint social media campaigns on key pillars, selected key projects or regions etc., information involvement of EU networks such as Europe Direct Information Centers, Liaison offices of the European Parliament, Europe Enterprise Network.

Furthermore, the Coordinating Committee of the Communication Strategy of the NRRP of Greece will collaborate on a continuous basis with the respective Commission's agencies to jointly organize and effectively implement high impact joint communication activities throughout the entire period of the

NRRF implementation. Regular exchange of information and networking to explore cooperation options has already been established with the Representation of the European Commission in Athens.

Planned budget

The **financial budget** for the Communication Strategy of the NRRP of Greece is expected to be allocated as follows:

Level 1: Central Campaign, to introduce the main assets of the Plan

Timing: Launch after the approval of the NRRP and the initialization of the implementation in the various pillars (2021-22)

Tactics: 360 campaign, Publicity Plan, National Level

Estimated budget: EUR 2.5 million

Level 2: Project-specific (reforms/investments) targeted campaigns under the 4 pillars.

Timing: Upon approval of each project and throughout its implementation, with dedicated communication activities on milestones. (2022-2026).

Tactics: Campaigns of national or regional character. Appropriate channels (ATL, digital, PR) to be decided depending on the specific needs and audiences per project.

Estimated budget: EUR 4.5 million

Allocation of communication budget within the project budget enabling recipients to implement communication actions will be explored.

Monitoring and Evaluation

A **monitoring system** based on metrics and KPIs will be developed for the NRRP of Greece and for key large-scale projects in order to evaluate the effectiveness of the Communication Strategy (observe the progress, measure the impact, undertake corrective actions if needed), on a quantitative and qualitative level.

The evaluation of communication is specified at action level, since KPI's are set at the design stage of the individual communication action or tool and are monitored during implementation. Once the objectives of the respective communication action are defined, the evaluation is implemented utilizing implementation (outputs), result and impact indicators, a range of which is presented below:

- Indicative implementation indicators: Number of ads, frequency of radio spots, frequency, GRPs' and coverage of TV Spots, number of participants per event, followers / impressions / views on social media, web advertising impressions, website traffic, , number of applications in project calls.
- Indicative result indicators: Earned media, awareness rate (Program, projects / aid), campaign / action audience recall, degree of satisfaction from event, engagement on social media (reach,

shares, likes, clickthroughs, comments), website conversions (sessions, downloads, subscriptions, bouncing rate, connection duration) and degree of user satisfaction.

- Indicative impact indicators: Positive view/perception of the Plan and the support of the European Union, spreading a positive message about the Plan or the EU as a result of communication activity, degree of confidence in National / European authorities.
- One of the most valuable evaluation tools will be the opinion surveys (e.g., to measure preliminary reactions/perceptions of target groups or the general audience after initial activities performed, after the implementation of a project etc.). KPIs and questionnaires to be agreed with the Commission.

Identifications of circumstances of any unexpected/not supportive/negative reaction by target groups and other stakeholders will be also carried out.

Draft communication plan upon NRRP adoption

A draft communication plan upon NRRP adoption may include the following actions:

- **Organisation and staging of a high-visibility event (digital or with physical presence) in the form of an official presentation and press conference, featuring the PM, the Steering Committee and government officials and EU Commissioners to ensure wide press media coverage.**
- Promotion and explanation of the main messages under the 4 pillars using audiovisual material
- Launch of website and official social media accounts
- **Gradual launch of central campaign as described above**

Part 4. Overall Impact

Strengthening the economic social and institutional resilience

a. Macroeconomic and social outlook

Uncertainty around the evolution of the pandemic remained high at global and European level in the first quarter of 2021, as the resurgence in infections and the new, more contagious variants aggravated the epidemiological situation, forced many countries to re-tighten or prolong containment measures, and, thus, weakened the near-term outlook. On the other hand, mass vaccination campaigns and the expected fiscal impulse from the “Next Generation EU” recovery fund to support a sustainable economic recovery, raise prospects of moving on from the worst of the pandemic.

The pace of the expected economic recovery from 2021 onwards will be determined by the pandemic dynamics, the extent of the immunization of the population, the stringency and duration of containment measures, the effectiveness of policy responses to limit the scars of the crisis, the adjustment capacity of the economy and country-specific characteristics. The tightening of mobility restrictions in Attica and other regions due to the worsening of the epidemiological situation in early 2021 is expected to impact upon the economic recovery for the current year as a whole, with the Greek economy continuing to experience recession in the first quarter of 2021. However, with the gradual easing of the containment measures from the second quarter onwards and the full reopening of the economy from the beginning of the third quarter of the year, along with the planned acceleration of the vaccination program, the Greek economy is expected to return to a positive growth trajectory in 2021 as a whole.

A factor of significant importance behind the positive near-term outlook is the maintenance of the economic support measures, within the context of the extension of the flexibility of the SGP rules and through a balanced fiscal policy, for the current year until epidemiological and economic conditions allow their gradual phasing out. To date, the positive contribution of support measures to real GDP in 2021 is estimated at 4%, i.e. in the absence of the measures, the projected real GDP volume for 2021 would be lower by 4 percentage points.

In addition, the continuation of the accommodative single monetary policy in 2021 supports the country's issuance activity, thus contributing to keeping borrowing costs and debt-servicing costs at low levels.

Furthermore, the timely and smooth absorption of NGEU funds in the context of the implementation of the Greek National Recovery and Resilience Plan (NRRP) from the second half of 2021 onwards, is expected to add approximately 1.3 pps to real GDP growth in 2021, through a boost in investment and second-round positive effects on the other GDP components. The NRRP is expected to pave the way for a solid economic growth in subsequent years, with long lasting effects. In this context, an acceleration of structural reforms is anticipated, building on ongoing reforms in the context of the enhanced surveillance process but also on a reform-oriented economic policy, beyond the agreed commitments.

Taking the above into account, as well as a more favourable carry over effect due to a smaller-than-initially expected recession in 2020, real GDP is expected to expand by 3.6% in 2021. Final domestic demand is projected to be the main driving force behind real GDP growth, with a positive contribution of 3.0 pps. Among components, real private consumption is expected to

contribute the most (1.9 pps), growing by 2.6%, benefitting from an upturn in employment, supportive economic policy and the materialization of pent-up consumer demand thanks to accumulated private savings during the lockdown period. Moreover, gross fixed capital formation is projected to rise by 7%, exceeding the levels of 2019, primarily supported by investment in non-residential construction and secondarily by investment in equipment. The key factor behind the expected investment growth for the first time after three years is expected to be the beneficial effect of the absorption of NGEU funds once started in the second half of the current year. Lower uncertainty, growth-friendly fiscal policy and accommodative liquidity conditions should contribute to an attractive investment environment. Finally, public consumption is expected to continue to grow, albeit at a slower pace (1.5%).

On the external front, exports of goods and services are expected to regain some of the lost ground (10.4%), assuming improved foreign demand compared to 2020 in terms of world trade and GDP growth in the euro area. Net exports of services are projected to contribute positively to GDP by 2.2 pps, with tourism, however, recovering only partially as uncertainty diminishes (tourism receipts are estimated to reach 45% of those in 2019). By contrast, net exports of goods are expected to have a negative contribution to GDP in 2021, as the implementation of the NRRP pushes up imports of goods amid a pick-up in construction and equipment investment. Imports of goods and services are projected to rise (6.9%) in line with domestically driven recovery.

After the reversal of its dynamics in 2020, total employment growth is expected to turn positive in 2021 (0.7%), amid gradual normalization of economic activity. Unemployment, however, is projected to remain stable at 2020 levels (16.3%) due to an increase in the labour force (0.8% from -2.2% in 2020). Enhancing effectiveness of active labour market policies and further strengthening of the social safety net should be key factors to ensure inclusiveness in coming years.

Having registered a negative value in 2020, HICP inflation is expected to be zero in 2021 before turning slightly positive in 2022, amid a recent increase in oil prices and a gradual improvement of domestic demand.

Medium-term Growth Prospects 2022-2024

The implementation of timely, temporary and targeted support measures implemented by the Greek authorities in 2020 and early 2021 have been effective in containing permanent scars in Greece's production capacity, as they have prevented a surge in unemployment and exit of viable firms from the market. Going forward, the ambitious investment projects and productivity-enhancement reforms included in the Greek NRRP are expected to make a very significant contribution towards bridging the large investment gap observed during the previous crisis years, deteriorated further during the pandemic crisis. In this way, they will foster potential growth in the medium-term and, thereby, help address legacy stock macroeconomic imbalances (high public debt, negative net international investment position, high unemployment and high non-performing loans). The NRRP is expected to add to real output growth 1.3 pps on average over the period 2022-2024.

In addition to the multiple beneficial effects of the Greek NRRP, supportive fiscal policy in 2022, as per the European Commission's proposal for the extension of the SGP's general escape clause next year, the continuation of the ECB's Pandemic Emergency Purchase Programme (PEPP)

until at least the end of March 2022, and the roll out of the vaccinations programme, are jointly expected to facilitate considerably an accelerated economic recovery.

On the basis of the above, and assuming a gradual return to normality, real GDP growth is projected to climb to 6.2% in 2022, as there will be ample room for Greece's spare productive capacity to be mobilized and for aggregate demand to bounce back to cover the current large negative output gap. Domestic demand through investment (3.5 pps contribution to GDP through a 30.3% growth rate) and private consumption (2.1 pps contribution to GDP through a 2.9% growth rate) is projected to add 4.9 pps to GDP growth, whereas public consumption is expected to decline compared to 2021 due to base effects from the high government expenditure undertaken in 2021 to address the pandemic (-3.0%). High-quality investments in the context of the NRRP are expected to advance the green and digital economy through the development and modernization of infrastructure and networks. In this context, the pre-pandemic positive trend in labour market developments is expected to resume; total employment, supported by buoyant economic activity, is projected to gain strong momentum (2.3%), amid increased numbers of private sector employees and self-employed, while unemployment is projected to return to its pre-pandemic declining path, decreasing by around 2 pps (14.4% from 16.3% in 2021). Additionally, the contribution of the external sector to GDP is expected to be higher compared to 2021 (1.3 pps from 0.7pps), as tourism receipts in 2022 are estimated to reach 80% of those in 2019. By contrast, the negative contribution of net exports of goods to GDP is expected to increase compared to 2021, due to rise in imports of goods driven by construction and technological equipment investment picking up. Moreover, HICP inflation is expected to tick up slightly in 2022 (0.7%), mainly due to the expected rise in domestic demand.

Regarding 2023 and subsequent years, the Greek economy is expected to continue along a solid growth path, although real GDP annual growth rates are projected to ease somehow compared to 2022, given the assumption that the economy will have regained the full amount of losses sustained due to the pandemic. The permanent post-pandemic gains in terms of economic growth go hand in hand with the multiple benefits from the implementation of the Greek NRRP. Ambitious investments and structural reforms in the areas of green transition, digital transition, growth-friendly business environment, export capacity, labour market and social cohesion are expected to facilitate a broad economic and institutional transformation of the Greek economy towards a more extrovert, competitive, green and digital economic model, and thus, to boost potential growth.

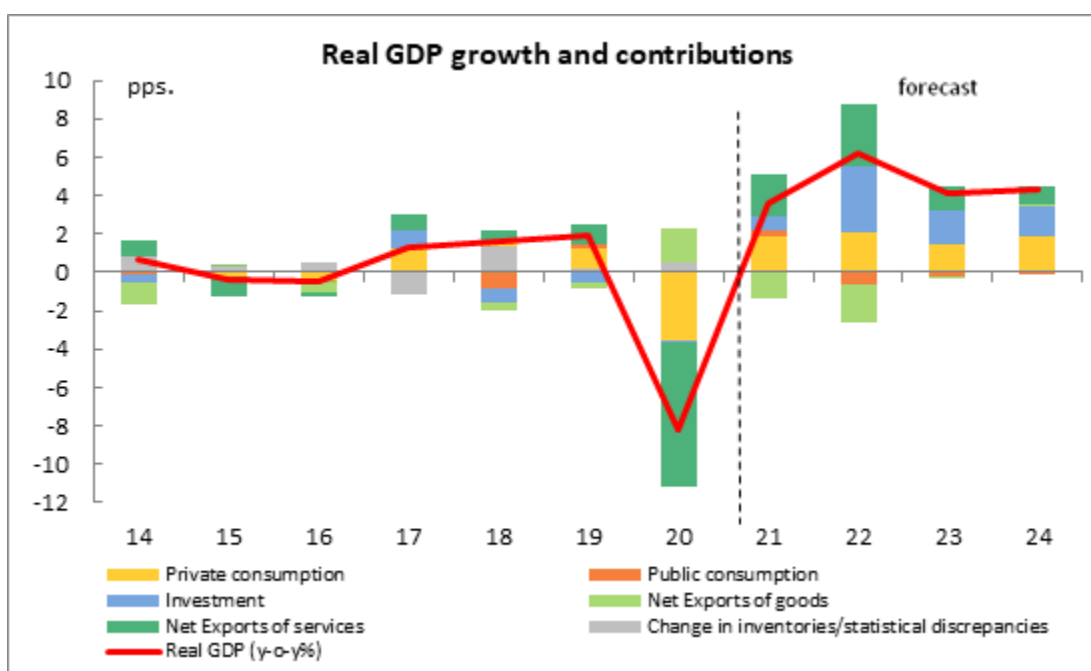
In this context, real GDP growth is projected to exceed 4.0% in both 2023 and 2024, mainly supported by domestic demand, with investment and private consumption contributing cumulatively equally to GDP at the end of the period 2023-2024 (3.4 pps). Likewise, favourable labour market developments are expected to continue, with total employment expected to record an annual growth rate around 1.3% in both years and unemployment de-escalating below pre-economic crisis levels at the end of 2024 (11.9% versus 12.7% in 2010).

The external sector is expected to contribute 1 pp of economic growth on average over the period 2023-2024. This is expected to be mainly the result of the rebound of exports of services, as well as productivity and competitiveness gains underpinned by reforms and the implementation of the NRRP.

Table: Key Annual Macroeconomic Indicators and Forecasts (% annual changes, constant prices)						
	2019	2020	2021	2022	2023	2024
Real GDP	1.9	-8.2	3.6	6.2	4.1	4.4
Private consumption	1.9	-5.2	2.6	2.9	2.1	2.8
Government consumption	1.2	2.7	1.5	-3.0	-1.0	-0.5
Gross fixed capital formation	-4.6	-0.6	7.0	30.3	12.3	10.8
Exports of goods and services	4.8	-21.7	10.4	13.8	7.5	6.2
Imports of goods and services	3.0	-6.8	6.9	8.5	4.0	3.4
GDP deflator	0.2	-1.5	0.2	1.0	1.2	1.6
HICP	0.5	-1.3	0.0	0.7	1.3	1.6
Total employment*	1.2	-1.3	0.7	2.3	1.3	1.3
Unemployment rate*	15.2	14.5	14.6	12.8	11.7	10.5
Unemployment rate (LFS)	17.3	16.3	16.3	14.4	13.2	11.9

(*) On a national accounts basis

Source: Annual National Accounts (Hellenic Statistical Authority),
estimates/projections of the Ministry of Finance for the years 2021-2024



b. Macroeconomic and social impact

The analysis of the macroeconomic effects of the National Recovery and Resilience Plan (NRRP) on the Greek economy has been carried out by the Bank of Greece (BoG) in the context of the Dynamic Stochastic General Equilibrium (DSGE) model of the Bank of Greece. A complementary robustness exercise has been undertaken by the Council of Economic Advisors (CEA), using the macroeconomic DSGE model QUEST3 R&D, namely the version for the Greek economy, developed by the European Commission. The two exercises agree both in terms of the medium-term effects of the NRRP on key macroeconomic variables, as well as on the importance of the structural reforms included in the NRRP for enhancing long-run growth.

Macroeconomic impact

The aim of the analysis following below, carried out by the BoG, is to provide a qualitative and quantitative assessment of the effects of the NRRP on the Greek economy in the context of the DSGE model of the BoG. The main findings can be summarised as follows:

- The full implementation of the NRRP (utilisation of the total amount of funds and implementation of the quantifiable structural reforms) can potentially increase the level of real GDP by 6.9% by 2026. This implies a contribution to the output growth rate by around 1.15 pps on average per year over the period 2021-2026. In other words, the NRRP is expected to accelerate the annual growth rate of real GDP by 1.15 pps over the baseline projection, which is defined as the steady state of the economy without the implementation of the NRRP. Private investment increases by around 20% in 2026 and employment by 4%. This amounts to the creation of around 180,000-200,000 additional jobs by 2026. At the same time, due to

increased GDP the NRRP broadens the tax base, leading to a rise in the tax revenues-to-GDP ratio by 2.8 pps in 2026. This implies an improvement in the primary surplus of the general government, thus creating additional fiscal space.

- The total effect of the NRRP on the economy can be decomposed into two effects: (a) the effect of grants and loans; and (b) the effect of structural reforms.
- In particular, the stimulus financed by grants and loans increases the level of real GDP by around 4.3% in 2026 and contributes to the growth rate of output by about 0.7 pps on average per year. The stimulus financed by loans allocated to private investment leads to a boost in private investment by around 20% over the stimulus period.
- Structural reforms further contribute to the output growth rate by 0.45 pps on average per year over the period 2021-2026, increasing the level of GDP by 2.6% in 2026. Unlike the temporary stimulus financed by grants and loans, however, reforms have the potential to lead to a permanent increase in the productive capacity of the economy. In the long-run (20-year horizon) the levels of real output, private investment and employment are expected to increase by around 6%, 8.5% and 4%, respectively. Importantly also, reforms lead to a permanently higher tax base, so that tax revenues as a share of GDP increase by around 2.5 pps in the long run.
- The estimates of the effects on the Greek economy of structural reforms included in the NRRP, as provided by the exercise of the BoG, should be interpreted as a lower bound. This is due to the fact that this impact assessment exercise quantifies three categories of structural reforms included in the NRRP: Reforms improving competition in product markets; reforms supporting higher labour force participation; and productivity enhancing reforms. In addition to these reforms, however, the NRRP contains flagship reforms for improving the quality of governance, the rule of law and the efficiency of the judicial system, which have not been quantified in the exercise of the BoG. Such reforms have great potential to increase productivity and allocative efficiency. As a result, the inclusion of such reforms in the NRRP can lead to significant additional long-run gains in terms of GDP per capita, which have not been included in the above estimates.
- In addition to the analysis summarised above, the BoG analysis also includes an additional exercise, aiming to quantify the impact of digitalisation of the public administration, which increases the efficiency of the public sector. Digitalisation of public administration leads to a reallocation of labour away from unproductive activities stemming from red-tape and administrative costs, towards productive activities. According to the findings of this additional exercise, these reforms alone, have the potential to further boost long run GDP by 3.9%, on top of the aforementioned long run estimates, leading to output gains above 10% in the long run.

Simulation Results

To examine the effects of investments and structural reforms under the NRRP, the BoG exercise introduces investments from grants and loans; and maps selected NRRP reforms to the relevant exogenous variables/parameters of their model. In particular four sets of policy simulations are conducted:

(1) Evaluation of the impact of the expenditures relating to RRP grants and loans (without taking into account the impact of structural reforms included in the NRRP), compared to a policy neutral baseline. The methodology section below summarises in detail the main assumptions and channels based on which the impact of grants and loans has been quantified.

(2) Evaluation of the impact of the reforms included in the NRRP (without taking into account the impact of public expenditures and loans included in the NRRP). The methodology section below summarises in detail the main assumptions and channels based on which a selection of these reforms, for which the macroeconomic impact was quantified, are mapped into the model's relevant exogenous variables. The selection hinges on the feasibility of this exercise in view of the empirical challenges embedded in quantifying structural reforms.

(3) The joint evaluation of policy changes in (1) and (2), and more specifically the evaluation of the simultaneous impact of the expenditures related to grants and loans, along with the effects of a selection of structural reforms included in the NRRP.

(4) An additional separate exercise, evaluating the effects caused due to the digitalisation of the public administration, which consists of a key component of the NRRP.

In the following Tables, where the simulation results are presented, all variables are expressed in percentage deviations from their steady state values in the base-line scenario, with the exception of the tax revenues-to-GDP ratio, which is expressed as percentage point changes. The baseline scenario is defined as no implementation of the NRRP.

Effects of grants and loans

The first set of results, presented in Table 1 suggest that the joint impact of grants and loans (without the implementation of structural reforms) leads to an increase in real GDP by 4.31% in 2026. Private investment also increases, reaching a peak of around 21% in 2025. Employment in the private sector increases by more than 2% during the stimulus period. This is translated into a positive contribution to the growth rate of real GDP by 0.72 pps on average each year between 2021-2026. The rise in the tax base boosts tax revenues as a share of GDP by 1.56 pps in 2026. Note that after 2026, when the stimulus period ends, the economy gradually converges to the initial steady state. Nevertheless, the speed of convergence is low, so that the positive effects on GDP are found to be long-lived even after 20 years. This is mainly due to the accumulation of capital stock over the stimulus period, which has persistent effects thereafter.

It is important to note that the stimulus financed by loans allocated to private investment has a larger impact on GDP compared to grants. This is due to the significant increase in investment demand and the accumulation of the private capital stock, as well as to the increase in the country's competitiveness, which boosts exports. In contrast, in the short-run the stimulus financed by grants crowds out private investment and consumption, while at the same time it generates inflationary pressures dampening demand for exports.¹¹¹

¹¹¹ The reason for the decrease in private investment is the temporary increase in the price of investment that is driven by the rise in the price of non-tradable goods. The latter is due to the increase in the demand for non-tradable inputs that are used in the production of government consumption and investment.

Regarding the propagation mechanism relating to grants, these are modeled through an exogenous increase in government investments and government consumption. The main impact on the economy stems from government investment (which is assumed to absorb 67% of grants). Higher government investment produces both demand and supply side effects. More specifically, an increase in government investment increases aggregate demand, leading firms to increase their demand for labour and capital services. The demand side effect on labour leads to an increase in private sector average real wages and employment, generating a rise in labour income. In turn, the rise in labour income triggers an increase in private consumption, further boosting aggregate demand. With regards to the supply-side effects of higher government investment, the latter is accumulated into higher public capital that directly enhances the productivity of the private sector. Turning to the effects from the increase in government consumption (assumed to absorb 33% of grants), the main channel at work is the rise in aggregate demand that increases labour and capital income and further boosts aggregate demand. Higher government investment and consumption generate inflationary pressures in the short run. This is due to a rise in labour costs and the rental rate of capital, both increasing the marginal costs of firms. Consequently, domestic products become less competitive, and this dampens the demand for exports in the short run, while it increases the demand for imports.

Next, and with regards to the effects of loans, these are modelled as implicit investment subsidies. The first order effect of loans cause a reduction in the price of investment that creates incentives for the private sector to increase investment spending. Eventually, there is a strong increase in investment demand during the period in which investment is subsidised, fostering capital accumulation. At the same time, firms increase their demand for labour in order to meet the higher domestic demand. Despite higher labour costs, the marginal costs of firms decrease in response to the lower rental rate of capital, thereby generating deflationary pressures. The reduction in domestic prices causes an improvement in the country's competitiveness, leading to a rise in exports. At the same time, the increase in labour income induces households to increase private consumption that further boosts aggregate demand.

Table 1: Effects of grants and loans

Panel A: Joint effects of grants and loans								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	2.23	3.30	3.72	4.04	4.25	4.31	2.08	0.56
Private investment	7.71	14.06	18.36	20.64	20.78	18.42	2.14	-3.92

Part 4: Overall Impact

Employment – private sector	1.49	2.36	2.50	2.52	2.43	2.23	0.03	-0.51
Tax revenues/GDP	0.79	1.23	1.41	1.53	1.58	1.56	0.55	0.25
Panel B: Effects of grants								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	1.04	1.29	1.23	1.26	1.33	1.45	0.30	0.29
Private investment	-0.17	-0.36	-0.49	-0.54	-0.49	-0.34	0.71	0.89
Employment – private sector	1.04	1.17	1.03	1.00	1.01	1.08	0.09	0.04
Tax revenues/GDP	0.45	0.55	0.51	0.50	0.52	0.56	0.05	0.09
Panel C: Effects of loans								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	1.19	2.00	2.47	2.77	2.91	2.85	1.73	0.27
Private investment	7.75	14.16	18.51	20.81	20.92	18.47	1.35	-4.78

Employment – private sector	0.46	1.20	1.47	1.52	1.42	1.16	-0.06	-0.54
Tax revenues/GDP	0.34	0.67	0.88	1.01	1.05	0.99	0.49	0.16

Source: Bank of Greece estimates.

Note: All variables are expressed in percentage deviations from their steady state values with the exception of the tax revenues/GDP that are expressed in percentage point changes.

Effects of structural reforms

Next, the analysis of the BoG presents the estimates of the effects of structural reforms on key macroeconomic variables, without taking into account the impact of grants and loans. Table 2 reports the effects from the structural reforms examined. The working assumption is that structural reforms are permanent, which means that the economy moves towards a new long run equilibrium (steady state). Panel A of Table 2 reports the joint effects of all reforms considered in this assessment. Panels B, C and D of Table 2 report respectively the results of reforms enhancing competition in the product market, reforms supporting higher labour force participation and productivity-enhancing reforms.

With regards to reforms enhancing competition in the product market (Panel B of Table 2), the analysis assumes a gradual and permanent reduction of price mark-ups of intermediate goods-producing firms by 1.026 pps by 2030. The size of the reform is such that the gap to the EU average practices in terms of the regulatory burden to firm entry and operation is gradually closed by 2030. The first order effect is a decrease in the price of goods produced and sold domestically, which increases domestic demand for these goods and reduces demand for imported goods (import substitution). Tradable sector output increases due to higher external demand driven by improved external competitiveness. Higher aggregate demand leads to a rise in the demand for labour, boosting labour income of households (the real wage also increases), thereby triggering a rise in private consumption that further increases labour and investment demand. Eventually, output and investment increase by 1.25% and 2.35%, respectively, in the new long run. The higher tax base leads to a rise in tax revenues-to-GDP ratio by 0.51 pps.

Next, reforms that promote higher labour force participation (Panel C of Table 2), are introduced in the model through a simulated cumulative increase of the labour supply by around 4% by 2030. The size of the reform is such that half of the gap to the 2019 EU average labour force participation rate is closed by 2030 (Eurostat LFS data). All else equal, these reforms improve the production capacity of firms, leading to a fall in labour costs in the short run, allowing firms to increase their demand for labour and hence the level of employment. The marginal costs of firms decrease and this exerts a downward pressure on domestic prices. This, in turn, triggers a change in the terms of trade causing a rise in exports. Through these channels, these reforms result in an increase of total labour income, and an increase in private consumption that further boosts domestic demand. Real GDP and private investment increase by 3.52% and 4.68%, respectively, in the long

run. The rise in labour income of households and private consumption lead to an increase in the tax revenues-to-GDP ratio by 1.47 pps in the long run.

Finally, structural reforms that boost productivity (Panel D of Table 2), reflect improvements in the business environment and the digitalisation of the economy. These are simulated through a permanent increase in TFP by 3.11% by 2030. This in turn, leads to a rise in the marginal productivity of private inputs and a decrease in real marginal costs. Subsequently, firms increase their demand for investment and labour, and reduce the prices of domestically produced goods, thereby boosting exports. At the same time, the rise in labour and capital income induces households to increase private consumption. In the long run, output and investment increase by 1.19% and 1.44%, respectively.

Overall, in the long-run (20-year horizon) the structural reforms can jointly contribute to an increase in the levels of real GDP, private investment and employment by around 6%, 8.5% and 4%, respectively. In addition, reforms can permanently increase the tax base and lead to a boost in tax revenues as a share of GDP by around 2.5 pps.

Table 2: Effects of structural reforms

Panel A: Joint effects of selected reforms								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	0.36	0.68	1.07	1.53	2.05	2.60	4.86	5.99
Private investment	-0.79	-1.12	-1.01	-0.50	0.32	1.39	6.28	8.46
Employment – private sector	-0.25	-0.09	0.23	0.68	1.20	1.74	3.86	4.15
Tax revenues/GDP	0.29	0.50	0.67	0.84	1.02	1.21	1.98	2.52
Panel B: Reforms enhancing competition in the product market								

Part 4: Overall Impact

Real GDP	0.11	0.20	0.29	0.37	0.47	0.57	0.99	1.25
Private investment	-0.10	-0.09	0.01	0.19	0.44	0.73	1.97	2.35
Employment – private sector	-0.07	-0.06	-0.06	-0.04	-0.03	0.00	0.08	0.06
Tax revenues/GDP	0.05	0.10	0.14	0.17	0.21	0.24	0.40	0.51
Panel C: Reforms supporting higher labour force participation								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	0.15	0.30	0.51	0.78	1.09	1.42	2.79	3.52
Private investment	-0.59	-0.92	-0.97	-0.77	-0.36	0.22	3.08	4.68
Employment – private sector	-0.07	0.13	0.47	0.91	1.40	1.91	3.92	4.28
Tax revenues/GDP	0.16	0.27	0.37	0.46	0.57	0.68	1.13	1.47
Panel D: Productivity-enhancing reforms								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years

Part 4: Overall Impact

Real GDP	0.09	0.18	0.27	0.37	0.49	0.60	1.06	1.19
Private investment	-0.10	-0.14	-0.10	0.01	0.17	0.37	1.22	1.44
Employment – private sector	-0.11	-0.16	-0.19	-0.19	-0.19	-0.17	-0.17	-0.21
Tax revenues/GDP	0.07	0.12	0.16	0.20	0.24	0.28	0.42	0.50

Source: Bank of Greece estimates.

Note: All variables are expressed in percentage deviations from the initial steady state values with the exception of the tax revenues/GDP that are expressed in percentage point changes.

Joint effects of RRP funds and structural reforms

The analysis of the BoG presents the total estimated macroeconomic impact of the grants, loans and a selection of structural reforms included in the NRRP, as described above. Table 3 summarises this overall effect:

Table 3: Overall effect of the Greek NRRP

Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	2.61	3.98	4.78	5.55	6.27	6.90	7.00	6.55
Private investment	7.18	13.32	17.70	20.35	21.15	19.75	8.70	4.77
Employment – private sector	1.24	2.26	2.70	3.16	3.58	3.93	3.92	3.65

Part 4: Overall Impact

Tax revenues/GDP	1.09	1.74	2.09	2.38	2.62	2.80	2.56	2.80
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Source: Bank of Greece estimates.

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the tax revenues/GDP that are expressed in percentage point changes.

The results presented in Table 3 suggest that the NRRP can potentially increase the level of real GDP during the period 2021-2026, cumulatively by an amount of approximately $\frac{1}{3}$ of the 2020 real GDP, and by about 7% in 2026, compared to the baseline scenario assuming no implementation of the NRRP. The long-run increase in the level of real GDP is due to the permanent positive impact of structural reforms. The permanent increase in the level of real GDP after 20 years is estimated at 6.55 percent compared to the baseline scenario. During its implementation period (2021-2026) the NRRP boosts private investment and employment by around 20% and 4%, respectively, which translates into 180,000-200,000 new jobs. Due to the effect of reforms, these gains are also permanent. The results also suggest a permanent increase in the level of private investment. Also, in the long-run, the tax revenues-to-GDP ratio increases by 2.8 pps, thus creating fiscal space that can further boost economic activity. Figure A1 presents the dynamic effects for key macroeconomic variables over the period 2021-2050.

Additional effects from the digitalisation of public administration

In addition to the effects discussed above, the BoG also examined (in a separate exercise) the effects of structural reforms included in the NRRP relating to the digitalisation of public administration. These effects have not been included in the estimates presented above. To that end, it was assumed that households allocate their available work effort time, between “productive work” and “unproductive activities”. Specifically, the effects of the digitalisation of public administration are simulated by assuming that Greece closes half of the gap from the EU by 2030, of the share of the available working time that is allocated to unproductive activities (see methodology section for detailed explanation). As shown in Table 4, on their own these reforms have important long run effects, leading to an increase in GDP and private investment by 3.91% and 5.22% respectively after 20 years, on top of the estimates of the joint impact of spending and reforms of the NRRP reported above. This implies that based on the BoG analysis, the total impact of the NRRP in the long run GDP exceeds 10%, an estimate which still does not account for additional productivity enhancing reforms included in the NRRP related to modernisation of the public administration, regulatory quality, the increased efficiency of the judicial system, etc.

Table 4: Effects from the digitalisation of public administration

Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
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Part 4: Overall Impact

Real GDP	0.18	0.35	0.59	0.89	1.23	1.60	3.10	3.91
Private investment	-0.63	-0.96	-1.00	-0.76	-0.29	0.36	3.51	5.22
Employment – private sector	-0.62	-0.94	-1.09	-1.14	-1.14	-1.11	-1.02	-0.62
Productive labour services	-0.07	0.17	0.56	1.05	1.60	2.17	4.39	4.78
Tax revenues / GDP	0.18	0.31	0.41	0.52	0.64	0.76	1.26	1.63

Source: Bank of Greece estimates.

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the tax revenues/GDP that are expressed in percentage point changes.

The increase in the supply of productive work implies that the same amount of labour input can now produce more output. The share of productive work increases leading to a boost in the labour income of households and private consumption, as households are paid for their productive work. In the short run, the higher labour productivity allows firms to meet the demand with less capital services leading to a temporary decrease in investment. The marginal cost of firms eventually decreases, allowing firms to reduce domestic prices that in turn trigger a rise in export demand. In the new long run, real GDP and investment increase by 3.91% and 5.22% respectively. The tax revenues-to-GDP ratio increases by 1.63 pps due to the increase in the tax base.

Discussion

As already discussed above, several groups of reforms are important but not easily quantifiable. They operate via multiple channels, shaping the framework conditions and institutional arrangements of the economy and influencing indirectly the effectiveness of other reforms. Examples include reforms that aim to improve institutional quality; government effectiveness; regulatory quality; rule of law; and control of corruption, via the modernisation of public administration (components 2.2 and 4.2), increased efficiency of the judicial system (component 4.3) and improvements in the tax collection structures (component 4.1). The impact of such complementary, horizontal and far-reaching reforms has not been explicitly estimated in the present empirical assessment, but is considered as a significant upside risk. Hence, the total estimates of the BoG analysis, presented in Table 3 should be interpreted as a “lower bound” of the positive effects of the National Recovery and Resilience Plan on the Greek economy.

More precisely, there is substantial cross-country evidence that high quality of institutions is strongly correlated with subsequent long-term growth¹¹², social welfare and inclusiveness. Based on this empirical literature, reforms improving governance and rule of law have great potential to reduce transaction and rent-seeking costs, support innovation and entrepreneurship and increase productivity and allocative efficiency. A number of studies suggest that rent-seeking brings substantial welfare costs and tends to affect innovators and young firms more negatively than established producers, as the former lack strong lobbies. Low quality of institutions can be a key determinant of rent-seeking behaviour. Examples include ineffective or partial rule of law, absent or weakly enforced property rights, and insufficient control of corruption.¹¹³ The BoG analysis also argues that on the basis of OECD estimates, reforms that would close the gap between Greece and the average practices in terms of the rule of law in other Southern European countries that share common experiences and features with the Greek economy (Italy, Spain, Portugal) would translate to an increase in the long run productivity of the factors of production, and thus deliver long run gains in GDP amounting to about 15%.¹¹⁴ Reforms that reduce the gap to the average EU practices in terms of rule of law, judicial efficacy, cost of contract enforcement or the time of insolvency procedures also relate to strong productivity effects increasing the level of GDP, investment and employment. It is also worth noting that judicial efficacy seems to have a positive impact on firm size which is a main target under pillar 4.

The digitalisation of public administration is a reform that also plays an important role in the NRRP under pillar 2. Reforms and investments to step up the digitalisation of the public sector and use data strategically for user-driven public services (component 2.2) are expected to enhance the public sector's efficiency and governance, reduce administrative costs and rent-seeking activities by various groups, and improve transparency and accountability, thus supporting labour productivity, long-term growth and social welfare, as predicted by the findings of the relevant exercise discussed above. Greece has made progress in digital government but still has room for improvement with respect to the EU or the OECD average.¹¹⁵

Finally, a number of reforms included in the NRRP are expected to significantly increase the resilience of the Greek economy to shocks, particularly in terms of its recovery capacity. Specifically, the economic and social resilience of Greece is also enhanced through three groups

¹¹² In a seminal paper, Kaufmann et al. (1999) find that a one standard deviation improvement in governance results in per capita income increasing by a factor of between 2.5 and 4.

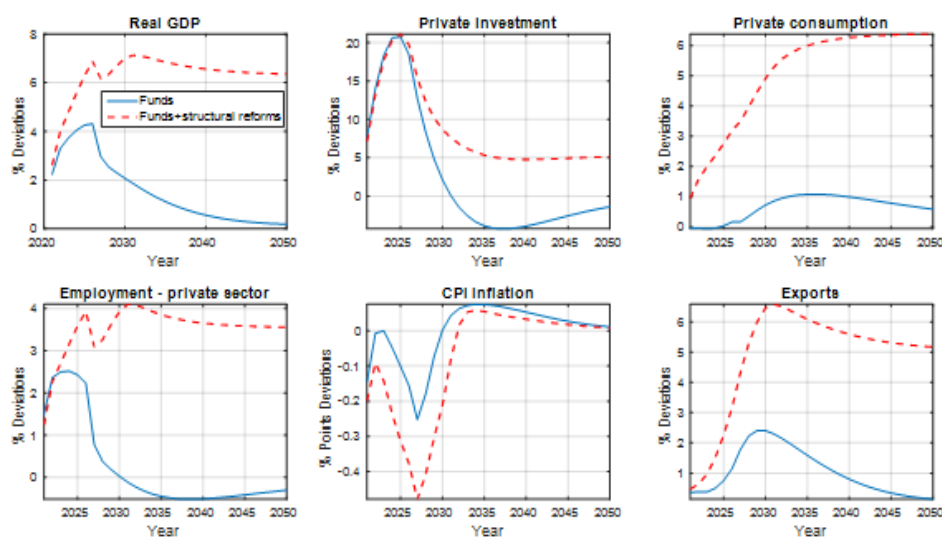
¹¹³ For a discussion, see, among others, ECB (2018), "Structural reforms in the euro area", Masuch, K., R. Anderton, R. Setzer, and N. Benalal (editors), Occasional Paper No 210, June.

¹¹⁴ See OECD Economic Surveys Greece, April 2018, Table 6, p. 31. According to OECD estimates, an increase of the World Bank rule of law index to the pre-crisis level by 2025 would increase real GDP by around 9% in 2040 and by around 15% in 2060 (ibid). This is equivalent to an increase in Greece's ranking in the rule of law to the 2019 average of Italy, Spain and Portugal (from 60.6 to 75.4 percentile rank), see <https://info.worldbank.org/governance/wgi/Home/Reports>.

¹¹⁵ According to the OECD Digital Government Index, Greece ranked 29 out of 33 countries in 2019 (GR: 0.35, OECD: 0.50). The six top-performing countries have formal coordination mechanisms responsible for cross-government ICT projects with institutional representation from across different policy areas to steer digital government reforms. Two additional elements are significant. First, engage users in service design and delivery and crowdsource ideas from stakeholders to align provided services with needs. Second, train civil servants in digital skills to be able to effectively implement digital government policies. According to the eGovernment Benchmark available by the European Commission, Greece ranked 25 out of 27 EU countries in the biennial 2018-2019 (GR: 52.5, EU-27: 71.9) in public services provided to both citizens and businesses. Countries can improve the penetration level by increasing the number of people submitting official forms online to administrative authorities or by automating processes and requesting fewer forms from citizens.

of reforms included in the NRRP that stand out: (a) green reforms that boost climate resilience (component 1.4), (b) primary healthcare system reforms (component 3.3) that boost resilience to health crises and (c) protection of intellectual and physical property rights (components 1.2, 4.2 on combating illicit trafficking, 4.4 and 4.6) that increase resilience of key economic sectors, such as culture and tourism, especially in the contemporary digital era. Economic resilience is also expected to be enhanced by reforms that increase the flexibility in labour and product markets and labour mobility through a swift upskilling and reskilling of the labour force (pillars 3 and 4), as well as by reforms supporting the shift to tradeables, and in particular a higher degree of trade openness and further diversification of exports (component 4.7). Finally, reforms that reduce the vulnerabilities of banks and further develop capital markets, should increase financial resilience to shocks, sheltering the economy from negative feedback loops between the real economy and the financial sector.

Figure A1: Dynamic effects of RRP



Source: Bank of Greece estimates.

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the tax revenues/GDP that are expressed in percentage point changes. The figure does not include the effects from reforms related to the digitalisation of the public sector.

Results of the Robustness Exercise by the Council of Economic Advisors

A robustness exercise, complementary to the analysis undertaken by the BoG, has been carried out by the Council of Economic Advisors (CEA), using the macroeconomic DSGE model QUEST3 R&D, and specifically the version for the Greek economy, which has been developed by the European Commission. The methodology as well as the assumptions and channels, through which the NRRP expenditures and structural reforms are assessed, are explained in detail in the methodology section below.

The results of the analysis carried out by the CEA are consistent with the results obtained by the analysis by the BoG, concerning the medium-term economic outcomes of the National Recovery

and Resilience Plan, as well as with regards to the importance of the structural reforms included in the Plan for the long run growth prospects of the Greek economy. Specifically, according to the estimates of the CEA, the complete implementation of the NRRP, which includes both the use of the total envelope of 30.5 bn euros in grants and loans and the full implementation of structural reforms, could potentially increase the level of real GDP by 7.3%, until 2026, compared to the baseline scenario without the implementation of the NRRP, as shown in Table 5. This implies a positive contribution to the growth rate of GDP by around 1.2 percentage points on average each year, during the period 2021-2026, with private investments increasing by around 8.2% compared to the initial steady state of the QUEST model.¹¹⁶ Furthermore, the overall impact of the NRRP after 6 years, is expected to increase employment by 2.64 percent compared to the baseline without the NRRP. Moreover, the government budget-to-GDP ratio is expected to improve by 1.62 pps, while the increased external competitiveness of the economy is expected to increase exports by 8.29% and to improve the trade balance-to-GDP ratio by 0.56 pps by 2026.

Table 5: Overall effects of the NRRP - CEA Analysis

Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	1.64	2.63	3.80	4.91	6.03	7.27	9.65	18.57
Private investment	3.86	4.04	4.85	5.86	6.98	8.20	7.45	15.73

¹¹⁶ The estimated percentage effect of 8.2% on private investments in the CEA analysis is calculated based on the assumptions of the European Commission regarding the calibration of the steady state Investment-to-GDP ratio in the QUEST model. In particular, the calibrated value for this ratio, by the European Commission, is assumed to be around 25% of GDP, which is closer to the EU average rather than reflecting the investment gap observed for the Greek economy over the past ten years. Subsequently, while in level terms the amount of loans introduced as private investments in each model is roughly the same between the two exercises, i.e the one of the BoG and the one by the CEA, in percentage terms the introduction of around 2 bn in RRP loans in the QUEST model leads to a relatively smaller percentage impact of 8.2%, after 6 years, on investments relative to the steady state, compared to the impact of 20% found by the BoG analysis. This is because the BoG calibrates the relevant model variables based on the most recent available data up to 2020 for all variables, implying a significantly lower steady state value for the Investment-to-GDP ratio, and hence for the level of investments. Assuming that the steady state level of investments reflects the average level of private investments between 2018-2020, the CEA finds that the corresponding increase in private investments due to the introduction of RRP loans reaches around 21% after 6 years, matching that of the BoG, while GDP increases to 7.7%, due to the fact that the starting point is from a significantly worse initial steady state.

Part 4: Overall Impact

Employment	0.75	1.18	1.63	2.00	2.35	2.64	2.82	4.59
Real wages	0.64	1.96	3.08	4.08	4.95	5.53	7.48	13.31
Government Budget/GDP	0.35	0.71	1.14	1.38	1.52	1.62	0.96	0.49
Exports	1.73	3.96	5.29	6.28	7.23	8.29	11.52	18.44
Trade Balance/GDP	0.15	0.59	0.69	0.66	0.61	0.56	0.77	0.38

Source: Council of Economic Advisors

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the Government Budget/GDP and Trade Balance/GDP that are expressed in percentage point changes.

Compared to the analysis done by the BoG, which estimates the long run impact on GDP to be 6.55%, increasing to more than 10% when adding the additional impact of the digitalisation of the public administration, the results of the complementary exercise by the CEA show a stronger long run impact. This is mainly due to the model framework of the robustness exercise which allows to focus on reforms improving human capital. Specifically, in the CEA analysis, the joint impact of total NRRP expenditures and the implementation of structural reforms, increases the steady state level of GDP and employment by around 18.57% and 4.59% after 20 years, respectively, as shown in Table 5. This positive difference mainly reflects the improvement of the supply side of the labour market, and more specifically the improvement in the quality of human capital through the increase of the average level of skills and the average level of labour efficiency of the labour force (see methodology section for a detailed explanation of the assumptions made). The overall effects in the CEA analysis in the long run, are consistent with a relevant analysis conducted by the European Commission in 2014, also using the QUEST model, on the potential growth impact of structural reforms in EU Member States.¹¹⁷ More specifically, in this analysis, the European Commission finds that the implementation of a combination of structural reforms in the areas of market competition and regulation, skill structure, labour market participation, active labour market policies and incentives for R&D expenditures, can potentially increase the level of Greek GDP by around 9.7% in 10 years and 17.6% in 20 years relative to the steady state. The Commission's working assumption in that paper is that structural reforms close only half of the gap with the three best performers, leading the authors to conclude that even such not overambitious reforms can have significant macroeconomic effects. Especially for Greece, the

¹¹⁷ See Janos Varga and Jan in't Veld (2014), "The potential growth impact of structural reforms in the EU: A benchmarking exercise", Economic Papers 541.

authors conclude that the long run gains are the largest compared to other EU countries, due to considerable scope for reforms identified in all areas by the distance-to-frontier approach. For comparison purposes, it is worth mentioning that the working catch-up assumption in CEA's analysis is even more conservative, in the sense that it assumes gradual convergence to the European average rather than with the three best EU performers (see methodology section below).

Table 6 presents the impact of the grants and loans only, without taking into account the effects of structural reforms. As far as real GDP is concerned, this increases by 2.53% compared to the baseline scenario by 2026. The impact on GDP is long-lasting due to the persistent effect of private and public capital accumulation as well as the permanent reduction of risk premia in tangible and intangible capital.¹¹⁸ The latter assumption is adopted by a relevant analysis of the European Commission on the impact of the RRF on European capital costs, as explained in the methodology section below.

Table 6: Impact of grants and loans only - CEA Analysis

Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	1.02	1.01	1.28	1.63	2.04	2.53	2.21	2.29
Private investment	4.69	5.17	5.74	6.38	7.08	7.88	5.30	5.45
Employment	0.81	0.64	0.59	0.64	0.77	0.84	0.44	0.41
Government Budget/GDP	0.43	0.34	0.52	0.72	0.90	1.07	0.57	0.01
Exports	-0.35	0.04	0.42	0.76	1.10	1.54	2.46	2.31
Trade Balance/GDP	-0.31	-0.24	-0.19	-0.19	-0.21	-0.22	0.10	0.01

¹¹⁸ The output elasticity of public capital takes a value of 0.12, which is the default calibrated value of the QUEST model based on empirical median estimates of the literature.

Source: Council of Economic Advisors

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the Government Budget/GDP and Trade Balance/GDP that are expressed in percentage point changes.

Table 7 shows the total impact of reforms (Panel A) as well as the separate impact of labour market reforms (Panel B) and product market reforms (Panel C), without taking into account the impact of grants and loans. The joint impact of structural reforms increases real GDP and employment by 4.5% and 1.66%, respectively, in 2026. The additional gains in the long run are very significant. Specifically, structural reforms also lead to an improvement of the Government Budget-to-GDP ratio and the Trade Balance-to-GDP ratio, by 0.35 pps and 0.36 pps, respectively after 20 years. The bulk of the impact on GDP and employment comes from labour market reforms, especially from those reforms which aim to improve the quality of human capital. Overall, labour market reforms (Panel B of Table 7) increase real GDP by 3.08% and employment by 1.05% in 2026. In the long run, the impact of labour market reforms on all key macroeconomic variables are stronger, although product market reforms also have significant effects.

Table 7: Impact of structural reforms only - CEA Analysis

Panel A: Joint effects of selected reforms								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	0.59	1.60	2.45	3.16	3.83	4.50	7.24	15.70
Private investment	-0.82	-1.20	-1.05	-0.76	-0.41	-0.03	1.95	9.93
Employment	-0.08	0.53	1.00	1.29	1.49	1.66	2.38	4.15
Government Budget/GDP	-0.07	0.46	0.73	0.80	0.77	0.69	0.43	0.35
Exports	1.90	3.62	4.55	5.20	5.77	6.35	8.84	15.79

Part 4: Overall Impact

Trade Balance/GDP	0.4	0.73	0.79	0.77	0.74	0.72	0.64	0.36
Panel B: Effects of labour market reforms								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	0.19	0.71	1.29	1.88	2.47	3.08	5.60	13.59
Private investment	-1.54	-2.84	-3.25	-3.25	-3.06	-2.77	-1.03	6.33
Employment	-0.03	0.15	0.40	0.64	0.85	1.05	1.78	3.53
Government Budget/GDP	-0.07	0.08	0.27	0.41	0.49	0.52	0.49	0.39
Exports	0.87	2.04	2.92	3.62	4.23	4.81	7.15	13.61
Trade Balance/GDP	0.20	0.46	0.59	0.64	0.66	0.66	0.61	0.32
Panel C: Effects of product market reforms								
Variable	2021	2022	2023	2024	2025	2026	10 years	20 years
Real GDP	0.39	0.89	1.16	1.28	1.35	1.42	1.64	2.11

Part 4: Overall Impact

Private investment	0.72	1.64	2.20	2.49	2.65	2.74	2.98	3.60
Employment	-0.05	0.38	0.60	0.65	0.64	0.62	0.60	0.62
Government Budget/GDP	0.00	0.37	0.46	0.39	0.28	0.17	-0.07	-0.04
Exports	1.03	1.58	1.63	1.58	1.54	1.54	1.69	2.18
Trade Balance/GDP	0.19	0.26	0.20	0.13	0.09	0.06	0.03	0.04

Source: Council of Economic Advisors

Note: All variables are expressed in percentage deviations from the steady state values with the exception of the Government Budget/GDP and Trade Balance/GDP that are expressed in percentage point changes.

Overall, the exercise carried out by the CEA, projects that the investments and reforms included in the National Recovery and Resilience Plan, increase labour productivity, which allows a simultaneous increase in the profitability of firms in the long run, as well as an increase in employment and real wages, especially in high value added sectors. This puts in work a self-feeding virtuous cycle of increased investments, exports and employment which lead to further increases in long-term national income.

Based on extensive empirical evidence presented in the academic literature, the projected increase of GDP and employment, will reduce poverty rates and social and economic exclusion rates, as well as income inequalities and other social inequalities (see section discussing social impact below). The additional fiscal space due to the increase of GDP will further enhance these outcomes. Simultaneously, the long run increase of exports will reduce the degree of exposure of economic activity to negative shocks affecting domestic demand in an asymmetric matter. Moreover, the structural reforms in labour and product markets are expected to increase the ability of the economy to adjust swiftly and effectively to negative supply and demand shocks. Through these channels, and by taking into account reforms that enhance the health system and the operation of institutions, the qualitative projection stemming from the CEA analysis is identical with that of the analysis of the BoG, according to which, the National Recovery and Resilience Plan will increase the economic, social and institutional resilience of Greece.

Social impact

The National Recovery and Resilience Plan (NRRP) is a holistic plan, anchored to concrete and high quality empirical evidence and international academic research, and aligned with best practices and recommendations by international institutions. The overall effects of the productive public and private investments as well as the implementation of structural reforms included in the Plan, are expected to substantially increase the output of the economy and create 180,000 to 200,000 new permanent jobs of good quality. These positive effects are expected to lead the economy to a new and better steady state with reduced inefficiencies, which implies a higher level of economic and social welfare. This more efficient state of the economy, is expected to be accompanied by higher participation in the labour market and higher employment, increased real wages and lower poverty rates, higher consumption by households and investment opportunities for firms, increased technological progress and efficiency for the private and the public sector, a bigger share of high quality jobs, as well as increased extroversion and resilience to economic shocks.

Subsequently, a key objective of the NRRP is to enhance the economic and social cohesion and resilience, through a number of targeted policies, which are also in line with the European Pillar of Social Rights. These policies aim to improve the social outlook by (1) promoting education, training and skills as well as equal opportunities and access to the labour market; (2) mitigating income and other inequalities based on gender, age, disability etc.; (3) improving living conditions, reducing poverty and enhancing the social safety net; (4) supporting youth in the labour market and providing early childhood care; (5) modernising the labour market, increasing inclusivity and improving its outcomes; (6) upgrading the efficiency and inclusivity of the health care system; (7) increasing connectivity, digital access and digital skills of the population, especially for the most vulnerable groups; (8) ensuring a just green transition; and (9) improving the resilience of key sectors in the economy.

Table A2 below, maps a range of components and actions included in the National Recovery and Resilience Plan, with the corresponding areas of the Social Scoreboard of the European Pillar of Social Rights. On the basis of the alignment of the policy initiatives and priorities included in the the Greek NRRP with the EU targets, guidelines and recommendations as well as international best practices and high quality empirical evidence, the overall implementation of the NRRP is expected to improve the social outlook and contribute towards achieving higher social cohesion, social inclusivity and social resilience. The positive social impact of the NRRP is also supported by ample evidence in the academic literature.

**Table A1: Mapping of the Social Scoreboard with selected actions
included in the Greek NRRP**

Equal opportunities and access to the labour market

Area 01: Education, skills and lifelong learning

Indicator: Adult participation in learning

- A new strategy for lifelong skilling - Modernising and upgrading Greece's upskilling and reskilling system
- Labor force skilling, reskilling and upskilling through a reformed training model (vocational education & training reform)
- Skill building for creative and cultural professionals
- Reskilling and upskilling in tourism

Area 02: Gender equality in the labour market

Indicator: Gender Employment gap

- Modernisation and simplification of the labour law
- Active labour market policies reform: Targeted employment programme for special populations with high barriers to employment and labour market (re)entry
- Child protection: Subsidisation of new early childcare centres or capacity in existent childcare centres for babies starting from 2 months until 2.5 years old
- Creation of childcare units within large companies

Indicator: Gender pay gap in unadjusted form

- Diversity awareness

Area 03: Income Inequality

Indicator: Income Inequality

- Promoting equal opportunities in employment, education and training
- Overall positive effects of the NRRP on GDP growth and employment, as shown in the macroeconomic impact section, are associated with the reduction of income inequality
- Also, see literature review below discussing international empirical evidence highlighting specific channels through which the contents of individual components of the Greek RRP are expected to reduce income inequality in Greece.

Area 04: Living Conditions and poverty

Indicator: At-risk-of-poverty or social exclusion rate (AROPE)

- Social integration: Social Reintegration of the most vulnerable groups; Social housing for the most vulnerable groups
- Energy poverty action plan
- Reform of passive labour market policies to support transitions to employment: Enhancing long-term unemployment (LTU) benefits

Area 05: Youth

Indicator: Young people neither in employment nor in education and training, age group 15-24

- Active labour market policies reform: Short-term work experience programme for younger unemployed workers (ages 18-30)
- Strategy for excellence in universities & innovation
- Strengthening the apprenticeship system
- Upgrading vocational education and training
- Digital transformation of education
- Upgrading vocational education and training (VET): supply of laboratory equipment for laboratory centers of IEK, EPAL, post-secondary year-apprenticeship class and vocational training schools

Dynamic Labour markets and fair working conditions

Area 06: Labour force structure

Indicator: Employment Rate, Unemployment Rate

- A new strategy for lifelong skilling – Modernising and upgrading Greece's upskilling and reskilling system
- Labour force skilling, reskilling and upskilling through a reformed training model (vocational education & training reform)
- Reform of passive labour market policies to support transitions to employment
- Active labour market policies reform
- Modernisation and simplification of labour law
- Upgrading vocational education and training

Indicator: Activity rate

- All of the above and measures under gender employment gap (in Area 02)
- Social integration: Social Reintegration of the most vulnerable groups
- Promote integration of the refugee population into the labour market

Indicator: Youth unemployment rate

- All of the above and measures under Youth (in Area 05)

Area 07: Labour market dynamics

Indicator: Share of long-term unemployment

- Reform of passive labour market policies to support transitions to employment
- Active labour market policies reform: Targeted employment programme in critical long-term unemployment areas (ages 45 and above)

Indicator: Activation measures – labour market policies participants per 100 persons wanting to work

- Active labour market policies reform
- Reform of passive labour market policies to support transitions to employment: New mutual obligations framework for unemployed workers; Removing disincentives for upskilling/reskilling

Area 08: Income, including employment-related

- Increasing job creation and participation in the labour market
- Overall positive effects of the NRRP on GDP, productivity and employment, as shown in the macroeconomic impact section, are associated with higher real wages in the economy.

Public support / Social protection and inclusion

Area 09: Impact of public policies on reducing poverty

Indicator: Impact of social transfers (other than pensions) on poverty reduction

- Digital transformation of the social support system
- OAED digitalisation

Indicator: General government expenditure in social protection

- Component 3.4.: Increase access to effective and inclusive social policies

Indicator: General government expenditure in health

- Component 3.3.: Improve resilience, accessibility and sustainability of healthcare

Indicator: General government expenditure in education

- Component 3.2.: Education, vocational education and training, and skills

Area 10: Early childhood care

Indicator: Children aged less than 3 years in formal childcare

- Child protection: Development of a comprehensive curriculum and program for schools aiming at the cognitive development of infants from 3 months to 4 years; Subsidisation of new early childcare centres or capacity in existent childcare centres for babies starting from 2 months until 2.5 years old.
- Creation of childcare units within large companies

Area 11: Healthcare

Indicator: Out-of-pocket expenditure on healthcare

- Reform of the primary health care system
- Organisational reforms in the health system (KETEKNY, ODIPY)
- NHS hospital renovation and infrastructure upgrade
- Establishment of home health care and hospital at home systems
- Establishment of a radiotherapy center at the "Sotiria" thoracic diseases hospital of Athens
- Project for the construction of a building dedicated to cellular and gene therapies and hematology clinic laboratories within the general hospital of Thessaloniki "Papanikolaou"
- Implementation of the national public health prevention program "Spyros Doxiadis"
- Reform in the fields of mental health and addictions

Area 12: Digital access

Indicator: Digital skills (% of individuals with basic or above basic overall digital skills)

- Digital transformation of education
- A new strategy for lifelong skilling: modernising and upgrading Greece's upskilling and reskilling system
- Social integration: Digital training of the elderly and of persons with disabilities
- Upgrade of digital skills in military service

Indicator: Connectivity dimension of the Digital Economy and Society Index (DESI)

- Component 2.1.: Connect

Moreover, a number of high quality empirical papers in the academic literature, provide evidence with regards to the expected positive social impact of many actions included in the National Recovery and Resilience Plan.

Concerning long-term unemployment, the academic literature argues that this depends on a number of factors, for which their operation and functioning can be improved through a number of specific actions and reforms described in the NRRP. Specifically, there is evidence that skill mismatching not only channels persons to jobs not corresponding to their skill sets (with adverse wage, productivity and career-progression effects), but it also contributes to long-term unemployment, at least in Europe, by discouraging people from (re)entering the labour market (CEDEFOP, 2015; Nesporova, 2017). The relationship between skill mismatching, matching efficiency and long-term unemployment incidence is not just observational or a mere correlation; a statistical significant relationship using longitudinal data for 25 European countries has been documented during the 2000-2018 period (Miyamoto and Suphaphiphat, 2020). Moreover, the effects of mismatches in the labour market have been shown to be persistent over time and they are more severe when occurring during recessions and downturns (Liu et al., 2017). Therefore, investing in labour force skilling, reskilling and upskilling through a reformed training model (as described in Component 3.2) is expected to encourage and increase labour market participation, improve the quality of matching between firms and jobseekers, and hence restore the long-standing long-term unemployment problem in the Greek labour market.

Furthermore, adequate spending in well-designed and effective Active Labour Market Policies (ALMPs), such as private sector employment programmes and training, have also been shown to reduce unemployment and long-term unemployment, and alleviate low participation and work in the informal sector (Card et al., 2018). In particular, Card et al. (2018) showed that the impacts of ALPMs are fully realised within 2-3 years after the programme implementation, they are larger

for those in vulnerable groups (such as females and the long-term unemployed), and that the effectiveness of ALPMs is increased during recessions. Therefore, reforms and actions such as those described in detail in Component 3.1 are expected to contribute significantly to employment levels and output growth, especially given the landscape being shaped at this pandemic phase.

Especially important are actions included in the NRRP to support female labour force participation. Specifically, empirical evidence shows female participation to exhibit an intertemporally positive association with economic growth, especially in service-based economies and in upper-middle and high-income countries (Tam, 2011; Gaddis and Klasen, 2014; Lechman and Kaur, 2015). Hence, proposals described in Components 3.1, 3.2, and 3.4 are expected to facilitate the increase in female employment rates and contribute to the reduction of the gender employment gap. More specifically, apart from training and ALPMs, there are a number of reforms and investments, outlined in Component 3.4, that have been shown to encourage and increase female employment rates. Stereotypical gender norms and anti-egalitarian views have been shown to be severely affecting both female employment rates and gender pay gaps in OECD countries (Fortin, 2005). Moreover, these stereotypical anti-egalitarian views are very persistent over time (Alesina et al., 2013). Therefore, developing an effective mechanism that tracks, monitors, reviews and suggests anti-discriminatory practices is a step towards stimulating female participation and progression in the labour market and hence, social cohesion and growth.

Apart from cultural, anti-discriminatory policies, there are also other means to encourage and increase female labour supply. Creating childcare units within companies, especially large ones, as described in Component 3.4, is another step to this direction. Transitions to regimes with universal, subsidized childcare for babies have also been shown to lead to significant increases to female employment (Baker et al., 2008). There is recent evidence from Europe that an increased availability of childcare promotes maternal labour force participation, and helps parents (especially mothers) not only to avoid or minimise otherwise unnecessary career breaks, and hence progress in the labour market, but also to achieve and maintain a satisfactory work-life balance (Vuri, 2016). Moreover, childcare-related policies are even more effective in countries where female employment rates are limited compared to the EU average, as is the case currently in Greece where there is room for improvement (Cascio et al., 2015).

Together with increased childcare availability, there are policies described that can both adjust the labour market in the post-pandemic era, as well as address the issue of limited female labour force participation, and consequently, narrow the gender employment gap. According to the 2017 European Semester Thematic Factsheet, Women in The Labour Market, insufficient availability of flexible working arrangements, can push women -particularly those with caring responsibilities- out of the labour market. Hence, increased childcare opportunities and a gender-balanced sharing of caring responsibilities is expected to further stimulate female labour force participation and employment, eliminate cultural stereotypes, and hence foster economic activity. Using data for the Greek labour market during the period shortly before the pandemic onset, Pouliakas (2020) recently showed that females are more likely to work from home relative to men, however, it is important that there is adequate support and balance with respect to caring responsibilities. Subsequently, an increased female employment rate is expected to further narrow or even eliminate the gender employment gap. The latter is also quite high relative to the EU-28 average, and it has also been shown to be negatively correlated with labour market activity and growth.

Moreover, narrowing the gender employment gap is also expected to narrow the gender pay gap, as the literature has pointed towards a positive relationship between the two, using data for a number of European economies (Simon, 2012) as well as worldwide (Schober and Winter-Ebmer, 2011). Although Greece stands below the EU-27 average according to the European Commission in terms of the unadjusted gender pay gap, the policy initiatives included in the NRRP aim towards increasing the relatively low female participation rate and addressing issues related to caring responsibilities, gender-based stereotypes and discriminatory practices in the labour market. These actions are expected to further narrow down the observed pay gap for female employees.

A key priority of the NRRP, is also to support young people in the labour market. Youth unemployment is strongly linked to employment rates and economic growth, and there are country-specific attributes and institutions, e.g. linked to vocational training, apprenticeship schemes, reskilling/upskilling opportunities, that are among its major determinants. The combination of growth-stimulating policies and institutional improvements adopted in the NRRP, are expected to combat youth unemployment and the slackness in labour demand in general, as suggested by the empirical literature (Dietrich and Moller, 2016). Moreover, unemployment spells in young ages have also been shown to have persistent effects both in terms of employment and wages (Mroz, 2006). This highlights the importance of actions described in the NRRP that provide adequate training and upskilling/reskilling opportunities, as well as flexible working arrangements, in order to facilitate young jobseekers (and those about to first enter the labour market) mitigate any involuntary unemployment spells, ensure a satisfying work-life balance and shape up human capital profiles that will allow them to smoothly (re)enter into the labour market or find a more suitable job (Components 3.1, 3.2, 3.4). This is particularly important during turbulent periods such as the pandemic one, as it has been shown that GDP changes impact on youth unemployment to a greater extent relative to overall unemployment, hence, young people are more exposed to business cycle fluctuations (Choudhry et al., 2012).

Economic growth is also linked with the share of youth neither in employment, education nor training (NEETs). More specifically, using data for European regions, Bruno et al. (2014), showed that NEET rates and GDP growth are quite strongly related, especially for Southern European regions, including Greece. This implies that anti-cyclical policies, ALMPs, apprenticeship schemes and promoting VET in these regions will be particularly useful in reducing NEET rates, hence improving social cohesion and fostering inclusiveness and economic growth. Therefore reforms targeting labour market policies, diversity awareness, reskilling and upskilling, and flexible working arrangements included in the NRRP are expected to be quite beneficial in reducing the number of young people outside the market or any formal training, and boost employment rates, output growth and productivity through human capital investments.

Policies that promote inclusion and labour market participation also improve income distribution and poverty rates. For example, there is evidence from Spain that unemployment incidence, at the individual and particularly at the household level, has a positive and significant impact on severe poverty, especially during economic recessions (Ayala et al., 2017). The negative relationship between GDP growth and poverty is a well established one and seems to hold for a large number of countries; economic growth is a necessity in order to improve the status of excluded and poor or at-risk-of-poverty individuals (Adams, 2004; Chemli and Smida, 2013). Policies accommodating labour market inclusiveness and (re)entry, are not only expected to boost participation rates, output growth, and poverty but also to reduce inequalities, as the three variables are quite strongly connected, based on recent evidence from the EU-28 countries

(Bourguignon, 2004; Michalek and Vybostok, 2018). Moreover, departing from the national level, there is also robust empirical evidence from EU regions that regional growth reduces income inequality (Ezcurra, 2007). This finding has important policy implications regarding public interventions through programmes designed to boost employment and personal income. The positive impact of EU grants on GDP growth, especially for the poorest EU regions, has also been confirmed in more recent studies. Becker et al. (2010), showed that EU structural funds have had positive GDP per capita growth effects in NUTS-2 regions with a per capita GDP below 75% of the EU average. Subsequently, the strong positive long run effects on GDP and employment of the overall implementation of the NRRP, is expected to improve income inequality and reduce the risk of poverty in Greece.

Tackling inequality and poverty, through economic expansion and inclusion will also be beneficial for reducing severe material deprivation, which is one of the main material poverty indices. According to recent Eurostat data at the sub-national, regional (NUTS-2) level, severe material deprivation rates are strongly determined by mean household incomes, income inequality, and at-risk-of-poverty rates. However, increases in regional GDP and reductions in unemployment, especially long-term unemployment, can significantly bring down severe material deprivation rates (Dudek and Sedefoglu, 2019). Moreover, using individual-level data from EU countries, Barcena-Martin et al. (2014), showed that households where the head is female have higher levels of deprivation, further highlighting the need to promote gender-balance restoring policies.

The analysis following below provides empirical evidence on the likely social impact of the NRRP using insights from the literature discussed above. Specifically, Table A3 reports regression results on the link between three selected key social indicators and the two leading macroeconomic variables projected to be positively affected by the implementation of the NRRP. More specifically, columns (a), (b) and (c) report the results of regressions modelling respectively the rate of the population at risk of poverty and social exclusion; the income inequality ratio; and the long-term unemployment rate on the log of real GDP volume and employment rate, using historic time series available for Greece. Due to data availability constraints, the first two models in columns (a) and (b) report the results of estimations using data of annual frequency for the period 2003-2019. Column (c) on the other hand reports results using data of quarterly frequency for the period 1999Q1-2019Q4. It should be noted that the findings reported below are only indicative and should be seen as a complement of the qualitative evaluation presented above. Having said so, the strong statistical correlations reported below are consistent with theoretical expectations and the international evidence reviewed above. As such, they provide relevant information for policy evaluation purposes.

Specifically, the reported equations suggest a statistically significant negative relationship between the modelled social indicators on the one hand and real GDP volume and employment rate on the other. As a result, the Table provides empirical evidence indicating that the positive impact of the Greek NRRP on long run GDP volume and the employment rate, as discussed in the previous section of the macroeconomic impact assessment, is expected to improve the social outlook by reducing poverty, social exclusion, income inequality and long-term unemployment.

Table A2: Modelling key social indicators on real GDP and the employment rate

	(a)	(b)	(c)
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Part 4: Overall Impact

	Dependent variable		
	Ratio of population at risk of poverty and social exclusion	Income inequality ratio	Long term unemployment ratio
constant	1.983*** (0.277)	0.245*** (0.076)	N/A
log (real GDP)	- 0.169*** (0.045)		-0.287** (0.118)
Employment rate	- 1.214** (0.457)	-0.293** (0.121)	-0.845** (0.419)
ARDL model fit (Adjusted R-squared)	0.926	0.718	0.974
Sample	2003-2019 (annual)	2003-2019 (annual)	1999Q1-2019Q4

Note 1: ** and *** respectively denote statistical significance at 95% and 99% percent. The parentheses report standard errors. Misspecification tests suggest that the residuals of the reported models do not present autocorrelation or heteroscedasticity.

Note 2: For columns (a) and (b) the reported equations are the static equations obtained by estimating an ARDL (1,0,0) model in annual frequency. In column (b) the log (real GDP) term was insignificant, therefore we report the findings of the parsimonious model. For column (c) the reported equation is the static equation obtained by estimating an ARDL(1,4,4) model, in quarterly frequency, with the lag structure determined using the Akaike information criterion. The model includes a constant and a trend term, respectively unrestricted and restricted to the ARDL levels equation, hence the absence of a constant coefficient in column (c). The use of ARDL models addresses potential omitted variables bias in the reported static equations, as the first autoregressive dependent variable terms operate as proxies for omitted explanatory variables.

Note 3: Data sources: Rate of the population at risk of poverty and social exclusion: EUROSTAT. Income inequality ratio: EUROSTAT. Long-term unemployment rate: Labour Force Survey (LFS). Real GDP: AMECO. Total employment rate, annual frequency: AMECO. Total employment rate, quarterly frequency: Labour Force Survey (LFS).

Note 4: Data definitions: The rate of the population at risk of poverty and social exclusion corresponds to the total count of persons who are: at risk of poverty after social transfers, severely materially deprived or living in households with very low work intensity. The Income inequality ratio is the ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile).

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c. Methodology

To evaluate the macroeconomic impact of policy reforms, the analysis of the BoG presented in section (b) above uses a version of the Bank of Greece micro-founded Dynamic Stochastic General Equilibrium (DSGE) model, which shares the main characteristics of standard structural models used by most central banks and international institutions, but also includes some features that are important to adapt the model to the Greek economy.¹¹⁹

In particular, the domestic economy is modelled as a small open economy belonging to a single currency area, in the sense that the nominal exchange rate is exogenous and there is no monetary policy independence. In the absence of autonomous monetary policy, the domestic nominal interest rate is determined by an exogenously given risk-free foreign nominal policy interest rate and a risk-premium component. The domestic economy consists of a large number of households, firms and a government. There are two types of households differing in their ability to participate in asset markets. The first type of households has access to financial markets and can transfer wealth intertemporally by trading bonds and accumulating physical capital, whereas the second type of households is assumed to be liquidity constrained in the sense that it cannot lend or borrow. Both types of households receive labour income by working in the private and public sector.

As regards the labour market in the private sector, households supply differentiated labour services and there are labour unions that act as wage setters in monopolistically competitive labour markets. As a result, private sector wages can deviate from the marginal product of labour due to labour unions' bargaining power. Concerning the production sector, the model features monopolistically competitive firms that produce tradable and non-tradeable differentiated goods. Firms in the tradable sector sell their output domestically and in the rest of the world (recorded as exports), while firms in the non-tradable sector sell their output only domestically. Firms set prices of their differentiated output according to the Calvo-type scheme with partial indexation. Prices incorporate a mark-up over the marginal cost, a feature that provides rationale for policies that increase competitiveness in the product market. All types of intermediate goods are used as inputs for the production of consumption and investment final goods. The latter are produced by perfectly competitive firms and are sold to domestic households and the government.

The model also includes a relatively detailed fiscal policy block. In particular, the government hires labour and combines public consumption and public employment to produce public goods that provide direct utility to households. The government levies taxes on consumption, on income from labour and capital earnings, as well as lump-sum taxes, and issues one-period government bonds in the domestic bond market and the international markets. Total tax revenues plus the issue of new government bonds are used to finance public purchases of goods and services, public investment, government transfers and public sector wages. Public investment is used for the accumulation of public capital that induces production externalities to the private sector, thereby affecting the productivity of the private sector's factors of production, namely capital and labour. The model also features sovereign risk premia that are positively correlated with government

¹¹⁹ For details of the main features of the model, see Papageorgiou, D. and E. Vourvachaki, (2017), "Macroeconomic effects of structural reforms and fiscal consolidations: Trade-offs and complementarities", *European Journal of Political Economy*, Vol. 48, 54-73, and Papageorgiou D., (2014), "BoGGEM: A dynamic stochastic general equilibrium model for policy simulations", Bank of Greece Working Paper Series, No 182.

indebtedness, thereby introducing a sovereign risk channel through which sovereign default risk is transmitted to the real economy.

The model also includes a number of nominal and real frictions, such as habit formation in consumption, investment adjustment costs and variable capital utilisation. These functions have been empirically identified as playing an important role for the transmission of structural shocks. Overall, the model captures well the key features of the Greek economy and thus provides a parameterised general equilibrium model suitable for policy simulations.

Finally, the model is calibrated, i.e. specific values are assigned to the structural parameters of the model and the exogenous policy instruments, in order to capture the current state of the Greek economy. The main source of data is Eurostat data at an annual frequency up to 2020.¹²⁰ In particular, fiscal policy instruments are set to equal to their average values in the data over the period 2017-2019. As is usual in the relevant literature, it is assumed that the economy is at its steady state and that the NRRP is announced and starts to be implemented in 2021.

Spending under the National Recovery and Resilience Plan

The empirical assessment of the impact of higher spending under the Recovery and Resilience Facility (RRF) requires certain assumptions to be made on the following: (a) the total amount of RRF funds for Greece, (b) the expected flow of disbursements of the RRF funds over time, and (c) the distribution of funds across possible uses.

Particularly, the analysis by the BoG assumes that Greece will request the maximum available funds (including loans) available to Greece on the basis of the RRF regulation. In particular, EUR 30.5 bn are expected from the RRF cumulatively in the 2021-2026 period, of which EUR 18.1 bn in grants and EUR 12.4 bn in loans. It is also assumed that Greece will complete all relevant milestones and targets on time, in order to realize full absorption of the funds by 2026.

Concerning the expected disbursements, the analysis by the BoG assumes that in 2021 Greece will receive as pre-financing 13% of the total amount of both grants and loans, in line with the RRF Regulation. For the period 2022-2026, disbursements of the remaining grants and loans are evenly allocated, as presented in Table A1 below.

Concerning the use of the funds, it is assumed that 67% of grants are channelled to finance public investment. The remaining 33% of the grants is used to finance government consumption. The full amount of loans is used to finance private investments. The working assumption is that the additionality principle applies, i.e. all grants and loans under the RRF finance new expenditures and reforms without any delay, and are not used to finance expenditures that would occur even in the absence of the NRRP.

For the purpose of assessing the impact of the National Resilience and Recovery Plan, and given the above assumptions, the model is appropriately augmented in order to allow for a different treatment of grants and loans received under the RRF. Thus, changes are introduced to the appropriate exogenous fiscal variables of the model and the investment subsidy path which is included in the model. Specifically, in line with the design of the RRF, grants are treated as

¹²⁰ For the calibration of the model see also Papageorgiou and Vourvachaki (2017) and Papageorgiou (2014).

budgetary neutral transfers to the government that allow an increase in government expenditures, both for government consumption and government investment, without bearing any impact on the public debt. Instead, loans do bear a burden on the public debt. Given this input, the model simulates the paths of key macroeconomic variables of interest expressed in percentage deviations from the steady state. It is important to note that after 2026, the government spending instruments (government investment and government consumption) and the investment subsidy return to their initial pre-RRP (pre-reform and pre-stimulus) levels, as is commonly assumed in such simulation exercises.

According to the Greek NRRP provisions, each year the loans are channelled as zero interest rate loans to the private sector with the aim to mobilise additional private investment. In the BoG model, these loans are introduced as implicit investment subsidies because they are expected to be used to finance investment and increase the total amount of investments for every unit spent by the private sector.¹²¹ As a result, investment subsidies reduce the price of a unit of private investment, thereby endogenously creating incentives to mobilise even higher private investments. This modelling approach mimics thus the intended leverage of private investment.

Table A3: Expected RRF disbursements by year

(bn EUR)

	2021	2022	2023	2024	2025	2026	total 2021-2026
RRF funds	3.97	5.31	5.31	5.31	5.31	5.31	30.50
<i>of which</i>							
Grants	2.35	3.15	3.15	3.15	3.15	3.15	18.08
Loans	1.61	2.16	2.16	2.16	2.16	2.16	12.42

Source: Bank of Greece estimates based on information received by Ministry of Finance

¹²¹ Loans are assumed to be repaid by the private sector during the period 2026-2058, in line with the decisions of the European Council on 21 July 2020 regarding repayment.

Structural reforms under the RRF

The NRRP includes an extensive list of reforms that are organised under four pillars: (a) Green transition, (b) Digital transition, (c) Employment, skills and social cohesion, (d) Private investment and economic and institutional transformation.

In order to assess the economic impact of the structural reforms envisaged under the NRRP, it is necessary to map these reforms into the model's appropriate exogenous variables, namely to identify the main channel through which a specific reform affects economic outcomes. However, due to the internal structure of the model, the quantification of all of the reforms included in the NRRP is not possible. Therefore, the empirical exercise of the BoG is restricted to the quantification of a subset of all the reforms included in the NRRP. These reforms are defined as reforms that can be linked to structural indicators and for which the empirical literature offers reliable guidance regarding the sensitivity of key economic variables with respect to changes in these indicators.¹²² As a result, the estimates of the empirical exercise of the BoG does not quantify the impact of the total number of structural reforms included in the Greek NRRP, implying that these estimates, as referred in the simulation results above, are considered as a lower bound of the magnitude of their impact on economic outcomes.

In addition to the issue of the mapping of reforms into the model parameters, one needs to assess the size of the reform in question. It should be noted that quantitatively assessing the size of the NRRP reforms is presently challenging as legislative actions and a more thorough specialisation of some of the structural interventions are still pending. A further reason that the ex-ante assessment of the size of the reforms is challenging is that there is uncertainty as to the time needed for reforms to affect economic outcomes, as well as regarding the speed and successful completion of reform implementation.¹²³

In all experiments, the size of the reforms as assumed by the BoG, i.e. the size of the exogenous shocks to the model, are set so as to close Greece's gap to average European practices (as measured in 2019 or 2020) by 2030 by at least 50%. Using some closure of the gap to EU practices is a plausible anchor given that the RRF aims "to achieve an economic and social recovery, resilience and convergence".¹²⁴ Note also that already by design of the policy experiments, structural reforms are expected to take longer to yield full effect compared to the NRRP investment stimulus. Such an approach is in line with the one adopted in existing literature focusing on the medium to long run effects of reforms.

In particular, the empirical assessment by the BoG estimates the effects of the implementation of the structural reforms through three sets of intervention, corresponding to three distinct model channels:

Reforms that enhance competition in the product market: The reforms in the NRRP falling into this category include the simplification of procedures (component 4.2), actions for the

¹²² A similar approach is followed in European Commission (2016), "The Economic Impact of Selected Structural Reform Measures in Italy, France, Spain and Portugal", Institutional Paper 023, European Economy. The study also discusses the challenges in quantifying the impact of structural reforms.

¹²³ See also discussion in Box IV.5 in Bank of Greece Intermediate Monetary Policy Report, December 2019, pages 113-117 (in Greek).

¹²⁴ See https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_949.

simplification of the business environment and its upgrading in quality and safety (component 4.7), trade facilitation (component 4.7), the reduction of the administrative burden and compliance cost (component 4.1).

To examine the impact of this set of reforms, the analysis of the BoG links changes in the regulatory burden captured by the OECD Product Market Regulation (PMR) index for services sectors with changes in the mark-ups in the product market (OECD indices for 2019).¹²⁵ The impact of the relevant reforms is simulated by a gradual permanent reduction of the price mark-up of intermediate goods-producing firms by 1.026 pps by 2030. The size of the reform is such that the gap to the EU average practices in terms of the regulatory burden to firm entry and operation is gradually closed by 2030.

Reforms that support higher labour force participation (labour supply): Reforms falling into this category include most of the reforms that promote job creation and participation in the labour market (component 3.1), like active and passive labour market policies. It also includes the reforms aiming to improve education, vocational education and training and skills (component 3.2), as well as reforms listed to increase access to effective and inclusive social policies (component 3.4). In the latter, reforms supporting an accessible and high-quality childcare supports women's labour force participation.

The impact of these labour market reforms is simulated by cumulatively increasing labour supply by around 4% by 2030. The size of the reform is such that half of the gap to the 2019 EU average labour force participation rate is closed by 2030 (Eurostat LFS data).¹²⁶

Productivity-enhancing reforms: Two groups of reforms that work out towards increasing the total factor productivity (TFP) of the economy are considered in the BoG's empirical exercise.

First, reforms that improve the business environment, *inter alia* by lifting the regulatory obstacles to competition. This group includes reforms that improve competitiveness and promote private investments and exports (component 4.7), like reforms that ease doing business or actions which contribute to the simplification of the business environment. The impact of these reforms is simulated by assuming that the gap to the EU average practices in product market regulation as measured by the OECD (overall) PMR Index is closed by 2030 (OECD indices for 2019). Using results from existing empirical studies, the BoG analysis maps changes in product market regulation on allocative efficiency, and thereby on labour productivity, into changes in TFP. These estimates suggest a permanent increase in TFP by 1.22%. It is assumed that TFP gradually increases to its permanently higher level by 2030.¹²⁷

¹²⁵ See Thum-Thysen, A., and E. Canton (2015), "Estimation of service sector mark-ups determined by structural reform indicators", European Economy Economic Papers No. 547.

¹²⁶ The labour force participation rate concerns individuals in the age group 15-74. It should be noted that the model does not feature unemployment, or changes in the population, so that labour force participation changes fully reflect changes in employment.

¹²⁷ For the European Commission estimates see Canton, E., D. Ciriaci, and I. Solera (2014): "The economic impact of professional services liberalisation", Economic Papers 533, DG Economic and Financial Affairs and European Commission (2013): "Product Market Review 2013: Financing the real economy", European Economy 8|2013, DG Economic and Financial Affairs. Similar conclusions are reached on the basis of OECD estimates reported in Égert, B. (2018), "The quantification of structural reforms: taking stock of the results for OECD and non-OECD countries", OECD Working Paper No 1482, OECD (see Table 3).

Second, reforms that enhance the digitalisation of the economy, specified under the second pillar of the plan like the actions aiming at switching to broadband connections and transition to 5G technology (component 2.1), as well as the third pillar of the plan, such as the implied e-skill-enhancing reforms included in reskilling/upskilling measures and active labour market policies (components 3.1 and 3.2). Simulating the impact of these reforms is guided by the European Commission's earlier estimates on the impact of digital structural reforms.¹²⁸ Following the Commission's approach, the BoG analysis quantifies the impact of selected indicators of digitalisation on TFP and labour productivity, either directly or through an improvement in the allocative efficiency. With regards to the size of the reform, it is assumed that the gap between Greece and the EU average is closed by 2030 in terms of the percentage of total population employed as IT specialists (2019 Eurostat data) and in terms of the percentage of enterprises using DSL or other fixed broadband connection (2020 Eurostat data). The estimates suggest a permanent increase in TFP by 1.89%. All in all, the above estimates imply that TFP increases permanently by 3.11% by 2030.

Digitalisation of the Public Administration: The introduction of this digitalisation reform is done by augmenting the model to account for unproductive use of resources, and in particular the inefficient use of factor inputs that may result from the low efficiency of the public sector, regulatory burden, the administrative costs on economic agents etc. To do so, it is assumed that households allocate their available work effort time, between “productive work” and “unproductive activities”. What matters for the production of output is the amount of productive labour services that households supply to firms and for which they receive labour income. Engaging in unproductive activities involves a loss in utility for households. Reforms related to the digitalisation of public administration can be assessed through their impact on the fraction allocated to productive work. This is challenging because it requires an estimate for the share of productive work or unproductive activities. To obtain a value for this parameter the productive/unproductive work effort is linked with the time that individuals can save from digital interaction with the government, which is *de facto* assumed to be more efficient. To do so, data is combined for the share of individuals that interact with public authorities via websites with the share of individuals that submitted completed e-forms. The estimated gap between Greece and the EU-27 is 10% in 2019 and is interpreted as the share of the available working time that is allocated to unproductive activities.¹²⁹ The effects of the digitalisation of public administration are simulated by assuming that Greece closes half of the gap by 2030 (i.e. the share of productive work increases by 5 pps or equivalently the share of unproductive activities is reduced by 5 pps).

Finally, it is assumed that policy reforms are credibly announced and begin to be implemented in 2021.

¹²⁸ See Lorenzani, D. and J. Varga (2014), “The Economic Impact of Digital Structural Reforms”, European Commission Economic Papers No 529.

¹²⁹ To compute this gap, data from Eurostat are used regarding the share of individuals that interact with public authorities via websites and the share of individuals that submitted completed e-forms. The average of the two series in 2019 is 40% for Greece and 44.5% for the EU-27.

Methodology and assumptions of the robustness exercise by the Council of Economic Advisors (CEA)

Complementary to the analysis by the BoG, the Council of Economic Advisors also performed a quantification exercise on the macroeconomic effects of the implementation of the Greek NRRP. The CEA analysis should be considered as a robustness exercise to that of the BoG. To perform the exercise, CEA used the macroeconomic general equilibrium model QUEST,¹³⁰ and more specifically, the QUEST3 R&D version¹³¹ which is frequently used by the European Commission as a formal tool for evaluating the effects of economic policies in the European Economy.

The parameterization and calibration of the Greek version of the QUEST3 R&D model has been carried out by the European Commission, using available data up to 2019. QUEST is a New-Keynesian model featuring endogenous growth, which describes the Greek economy through behavioural equations that explain the optimisation behaviour of economic agents through the interaction of households, firms in the intermediate and final goods sector, the R&D sector, the Government, the ECB as well as the external sector. The version of the model for the Greek economy, also used by the Commission, consists of three blocks: the Greek economy, the Euro Area and the Rest of the World. Subsequently, the model also takes into account the interaction of the Greek economy with the rest of the Euro Area, in the context of international trade and a common monetary authority.

The element of complementarity between the two empirical studies, i.e. by the BoG and the CEA, is due to certain differences in the analytical specification of the models, in the assumptions and the transmission channels of investments and structural reforms included in the NRRP. The main common points as well as the main differences of the complementary quantitative exercise of the CEA compared to that of the BoG are presented below.

With regards to the expenditures of the NRRP the same assumptions are made for the use of the total amount of EUR 30.5 bn cumulatively over the period 2021-2026, from which EUR 18.1 bn refer to grants and EUR 12.4 bn refer to loans. With regards to the grants component, 67% is distributed towards public investments, whereas the remaining 33% is distributed towards public consumption. Moreover, both exercises adopt the common hypothesis that the total amount of loans are diffused towards the private sector, to finance private investments. A further common assumption is that of the additionality principle.

Both exercises assume that the total amount of loans increases public debt at the time of disbursements, while grants are treated as budget neutral, without increasing public debt. As for the disbursements of the resources, the analysis of the BoG adopts the assumption, based on the RRF regulation, of an upfront disbursement of 13% of the total envelope of the EUR 30.5 bn in 2021 and an equal distribution of the remaining amount during the period 2022-2026. The exercise carried out by the CEA adopts the European Commission's assumption in its analysis for

¹³⁰ See Marco Ratto, Werner Roeger and Jan in't Veld (2008), "QUEST III : An estimated DSGE model of the euro area with fiscal and monetary policy", Economic Papers No 335.

¹³¹ See Francesca D'Auria, Andrea Pagano, Marco Ratto and Janos Varga (2009), "A comparison of structural reform scenarios across the EU member states: Simulation-based analysis using the QUEST model with endogenous growth", Economic Papers 392.

the implementation of the RRF in the EU,¹³² where it assumes equal disbursements over the period 2021-2026.

The introduction of grants used as government expenditures allocated towards public investments by 67% and public consumption by 33%, is made in both exercises through the relevant exogenous variables of the model. Concerning the loan component of the NRRP, the CEA assumes an exogenous increase of the level of investments directly in the capital accumulation equation, which increases the stock of public capital, in conjunction with a permanent reduction in the risk premia of tangible and intangible capital by 20 basis points, compared to the initial steady state. The assumption on the reduction of the risk premia follows the hypothesis made by the European Commission with regards to the average impact of the RRF on the average cost of capital in the EU.¹³³ As for the analysis of the BoG, the transmission channel of the impact of loans is defined through an indirect subsidy of investments reducing the price of investments.

For the assessment of the impact of structural reforms, the two exercises follow a similar approach involving mapping the reforms included in the NRRP to the relevant exogenous variables and parameters of the models used. The QUEST model contains a more extensive list of variables and parameters referring to labour and product markets and, most importantly, it includes an R&D sector featuring long run endogenous growth effects.

With regards to the structural reforms in product markets, the analysis of the BoG assumes a gradual convergence of the price mark-up in the intermediate goods sector towards the EU average, by 50% in 10 years time. This reduction leads to a change in the terms of trade in favour of domestic production, thus increasing Greek exports and GDP permanently. The main variable used in the exercise by the CEA to define the increase in competition due to the implementation of reforms included in the NRRP is the price mark-up of the final goods sector. In particular, it is assumed that the price mark-up is reduced by 2.7 percentage points in discrete step, which implies a direct convergence towards the euro area average, based on the calibrated values of the QUEST model. The impact of this change leads to a gradual reduction of the prices of final goods, which boosts domestic demand and the external competitiveness of the Greek economy. This in turn increases exports for final goods as well as demand for capital inputs by the intermediate sector. The physical capital produced by the intermediate sector is an essential input for the production capacity of firms in the final goods sector, in order to respond to the increased demand for their products. At the same time, this reform also leads to an indirect long-term impact on productivity, through the increased demand of new patents produced by the R&D sector, which feed endogenously to the production of private physical capital.

An additional complementary assumption which is allowed by the QUEST model in the analysis of the CEA concerns the improvement of the business environment. This assumption is modelled through a reduction in the entry costs faced by firms in the intermediate sector. Specifically, the CEA analysis assumes a discrete and permanent reduction of these costs by 1 percentage point from its calibrated value, so as to be equivalent to the latest estimate of the Doing Business Report of 2020, at 1.5% of per capita income. This reform leads to an increase in firm entry in the intermediate goods sector, which in turn increases demand for new technologies and induces an

¹³² See Commission Staff Working Document (2020), "Identifying Europe's recovery needs", SWD(2020) 98.

¹³³ See Commission Staff Working Document (2020), "Identifying Europe's recovery needs", SWD(2020) 98.

endogenous increase of investments in intangible capital in the R&D sector, with long-lasting positive effects for total factor productivity.

Finally, the QUEST model allows for the quantification of a reduction in administrative barriers faced by firms due to the range of administrative procedures and regulation. This variable is linked to structural reforms in the NRRP aiming, among others, at improving governance, the modernisation of public administration and the increase in the efficiency of the judicial system. Following the approach of the European Commission in a relevant study,¹³⁴ CEA's analysis makes the hypothesis that these reforms lead to a discrete and permanent reduction of the administrative burden faced by firms in the final goods sector by 10%. This cost reduction allows firms to produce the same level of output with a lower average cost of production leading to increased profitability, which in turn increases private investment. Increased demand for intermediate goods increases the demand for patent varieties, leading to a long run endogenous increase in GDP.

With regards to structural reforms in the labour market, the analysis by the BoG quantifies the effects of an increase in the participation rate by cumulatively increasing labour supply by around 4% by 2030, where the labour supply services are differentiated between labour in the private and public sector. The analysis by the CEA using the QUEST model allows for three types of skilled labour (low, medium and high skilled), each of which is characterised by a different degree of labour efficiency, where higher skills are associated with higher efficiency. As a result, the analysis by the CEA maps the reforms included in the NRRP aiming to improve labour participation and quality of education; upskilling/reskilling programmes aiming to improve digital skills; and active and passive labour market policies to changes in the labour supply and the quality of human capital. These changes and their effects are quantified through four channels:

The first channel assumes that the non-participation rate of the working age population of low and medium skilled workers declines as a result of reforms, converging gradually and linearly to half of the current distance from the euro area average after 20 years. The CEA analysis assumes no impact on the corresponding non-participation rate for the high skilled workers, since the corresponding calibrated value of the QUEST model by the European Commission is already below the euro area average. Specifically, it is assumed that the non-participation rate of the low skilled population declines gradually by 0.66 pps, while for the medium skilled population it declines gradually by 2.2 pps. This leads to a rise in labour supply, and assuming all else constant, improves the production capacity of firms leading to a fall in labour costs in the short run. This, in turn, allows firms to increase their demand for labour and hence the level of employment. As marginal cost of firms decrease, they exert a downward pressure on domestic prices which implies a drop in domestic inflation and a change in the terms of trade, increasing international competitiveness, which triggers a rise in exports. Through these channels, the increase in labor participation leads to increased employment, and in combination to the drop in domestic prices, leads to a rise in private consumption that further boosts domestic demand.

The second channel focuses on flagship reforms of the NRRP aiming at improving the human capital of the economy. Specifically, the CEA analysis assumes that the distribution of the labour force between low, medium and high skilled workers, converges gradually and linearly to the EU

¹³⁴ See Francesca D'Auria, Andrea Pagano, Marco Ratto and Janos Varga (2009), "A comparison of structural reform scenarios across the EU member states: Simulation-based analysis using the QUEST model with endogenous growth", Economic Papers 392.

average over the next 20 years (Eurostat data). In particular, the CEA assumption is that the share of low skilled labour reduces by 3.94 pps towards the EU average, as these workers obtain medium skills. This implies a simultaneous increase of the medium skilled workers by 1.86 pps, while part of the medium skilled labour acquires high skills, increasing thus the share of high skilled workers by 2.08 pps. As a result, firms have at their disposal more labour force that is medium or high skilled, which contributes to increasing their productive capacity due to the higher efficiency of available workers, resulting in beneficial long-term GDP effects. Moreover, the increased availability of high skilled workers leads to an increase in employment in the R&D sector. In the long-term, this leads to an increase in the production rate of new technologies (patents), which in turn increases endogenously the productivity of physical capital.

The third channel assumes that the labour efficiency of medium and high skilled labour increases gradually and linearly towards the EA average and half of the EA average respectively, after 20 years.¹³⁵ This change gradually increases the marginal product of labour in the production function of final goods, causing a positive impact in economic activity in the short term, but mainly in the long run as well. Simultaneously, the increase in the marginal product of labour increases real wages and consumption, as well as firms' external competitiveness, thus enhancing domestic production and exports.

The fourth channel, assumes that labour reforms in total reduce frictions in the labour market as defined in the model. The difficulty to precisely quantify the magnitude of this change limits the analysis to assume a discrete marginal reduction in the wage mark-up by 1 pp, following the practices of relevant empirical studies of the European Commission.¹³⁶ The long-term effects of this reduction is positive for employment and exports, which leads to an increase in real GDP in the long run.

Finally, the QUEST model used by the analysis of the CEA, allows quantification of the effect of the positive spillovers for the Greek economy caused by simultaneous implementation of National Recovery and Resilience Plans by the rest of the euro area member states. In line with the assumptions relating to the Greek NRRP, the RRF grants for other member states are also assumed to be distributed between public investment and public consumption by 67% and 33%, respectively. Furthermore, the analysis assumes that only 50% of the total RRF loans envelope available to the remaining euro area member states is requested, and is used to fund additional public investments. Overall, the CEA analysis finds that the RRF's implementation in the remaining euro area member states generates positive spillover effects on the Greek economy, increasing external demand and thereby Greek exports. In 2016, the positive impact of this spillover on the Greek GDP level is found to be equal to 0.16%.

¹³⁵ No assumption is made regarding the efficiency of the low skilled workers, since based on the calibration of the QUEST model by the European Commission, this type of labour in Greece is more efficient than the average of the euro area. On the other hand, the recorded deviation between the calibrated efficiency value for high skilled labour in Greece from the euro area average is found to be very large, as a result of which the CEA analysis assumes that convergence over the next twenty years is enough to cover only half of the distance from the euro area average.

¹³⁶ See Francesca D'Auria, Andrea Pagano, Marco Ratto and Janos Varga (2009), "A comparison of structural reform scenarios across the EU member states: Simulation-based analysis using the QUEST model with endogenous growth", Economic Papers No 392.

d. Sustainability

Based on the findings of the macroeconomic simulation exercises performed by the Bank of Greece (BoG) and the Council of Economic Advisors (CEA), it can be confidently expected that the full implementation of the Greek National Recovery and Resilience Plan (NRRP) will yield significant and sustainable positive economic and social effects, increasing long term growth, employment and social, economic and institutional resilience.

Specifically, the joint impact of productive investments by the public and private sectors, financed by the RRF's grants and loans, combined with the implementation of the reforms included in the NRRP are expected to lead to significant long run GDP gains, which could exceed in the long-run (20 years) 10% in the BoG analysis and 18.5% in the CEA analysis. The BoG and CEA projections are consistent with those of previous research published by the European Commission, according to which the implementation of structural reforms similar to those included in the Greek NRPP would in the long-run (20 years) increase Greek real GDP by 17.6%.¹³⁷

With regards to employment, the BoG projects the creation of 180,000 - 200,000 new vacancies over the period of the NRRP's implementation (2021-2026), also projected to be maintained in the long-run. Furthermore, as a result of higher productivity allowing an increase in real wages, the permanent employment gains projected by the BoG and CEA analyses are expected to be jobs of higher quality. This, in turn, implies a significant, sustainable positive social impact, namely (among others) a permanent reduction in long-term unemployment, income inequality and the risk of poverty and social exclusion, driven by the permanent increase in real GDP and employment. Furthermore, the projected permanent improvement in the government budget balance creates additional fiscal space. This increases the sustainability of public finances, and can also further enhance the positive long-run social repercussions caused by the NRRP's implementation.

Furthermore, a highly significant aspect of the Greek NRRP is its projected positive impact upon Greece's international competitiveness, mainly through reforms. Higher competitiveness is expected to cause an increase in exports and, thereby, bring about a higher degree of openness of the Greek economy. An increase in the size of the Greek traded sector is bound to increase the resilience of the Greek economy in the event of an asymmetric, country-specific economic shock, thereby enhancing the sustainability of the Greek economic model. This, in turn, would enhance further the sustainability of public finances.

Higher economic resilience is also enhanced by structural reforms included in the NRRP increasing the economy's capacity to adjust to exogenous shocks and changing economic conditions. As the theory of optimum currency area suggests, and a large number of empirical academic literature confirms, increased flexibility promoted by such reforms is a prerequisite for economic and social prosperity within a single currency area. In particular, structural reforms included in the NRRP aiming to increase the capacity of Greek labour, goods and services markets to adjust to negative economic shocks, thereby preventing large and lasting negative output gaps in the event of an adverse shock. This will add significant resilience to the Greek economy.

Last, but not least, it is important to note that the investments and reforms included in the Greek NRRP are compatible with the horizontal principle embedded in the RRF regulation relating to recurring national budgetary expenditure and the principle of additionality. This combined with

¹³⁷ See Janos Varga and Jan in't Veld (2014), "The potential growth impact of structural reforms in the EU: A benchmarking exercise", Economic Papers 541.

the additional fiscal space created from the implementation of the NRRP, safeguards the implementation of reforms and investment included in the NRRP, reassures that they will not be reversed and ensures their sustainability following the expiration of the Recovery and Resilience Facility.

e. Cohesion

A number of indicators could be used to monitor the contribution of the NRRP to the reduction of disparities, including at territorial level. These indicators are available by Eurostat or other publicly available data sources:

- Unemployment and employment rate, including youth unemployment and employment, disaggregated by gender
- GDP per capita relative to the EU-average, and at subnational level
- Quality of government index
- Gender employment gap
- Gender pay gap in unadjusted form
- Share of long-term unemployment
- Activation measures – labour market policies participants per 100 persons wanting to work
- General government expenditure in health
- General government expenditure in education
- Children aged less than 3 years in formal childcare
- Connectivity dimension of the Digital Economy and Society Index (DESI)
- Adult participation in training
- Young people neither in employment nor in education and training, age group 15-24
- Digital skills (% of individuals with basic or above basic overall digital skills)

Comparison with the investment baseline

The comparison with the investment baseline uses as a benchmark the values for gross fixed capital formation of the general government during 2017-2019. The expenditure to be financed by RRF grants has been allocated over 2020-2026 on the basis of the implementation timeline of the projects, which have also been allocated to expenditure categories of the COFOG. This breakdown is provisional since a significant number of projects to be financed by the RRF could in principle be included under more than one level II items of the classification. For the purposes of the comparison, all expenditure financed from RRF grants are considered as growth enhancing expenditure.

The values used for nominal GDP for the period 2020-2025 are consistent with the macroeconomic scenario of the Stability Programme. Given that medium-term fiscal planning in Greece covers a period of five years (from year t to year $t+4$), no macroeconomic projections are currently available for 2026. In the tables submitted, the assumption on nominal GDP growth in 2026 follows the latest baseline scenario of the Ageing Working Group budgetary projections that have been approved by the Economic Policy Committee.

The value used for general government's total gross fixed capital formation for years 2020-2024 is also consistent with the Stability Programme projections. For 2025-2026, the figures used for gross fixed capital formation excluding RRF grants constitute provisional assumptions. The breakdown of gross fixed capital formation across COFOG categories is based on current estimates about the breakdown of the Public Investment Budget over the coming years which are subject to considerable uncertainty and may need to be revised in the future.

On the basis of the above, total growth enhancing expenditure affected by expenditure financed from RRF grants is estimated at EUR 10,002 billion on average over 2021-2026. Growth enhancing expenditure excluding expenditure financed by RRF grants is estimated at EUR 6,940 billion on average over the same period, compared to a reference level of EUR 4,535 billion on average during 2017-2019. The ratio of growth enhancing expenditure excluding expenditure financed by RRF grants over nominal GDP has been calculated at 2.5% for the reference period and is estimated at 3.5% on average over 2021-2026.

The results of the comparison with the investment baseline are included in Tables 4a and 4b of the attached Excel template published by the European Commission together with its Guidance to Member States Recovery and Resilience Plans of 22 January 2021.