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2024 Country Report - Greece

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

on the economic, social, employment, structural and budgetary policies of Greece

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European Commission

Greece

2024 Country Report

#EURO at 25



ECONOMIC AND EMPLOYMENT SNAPSHOT

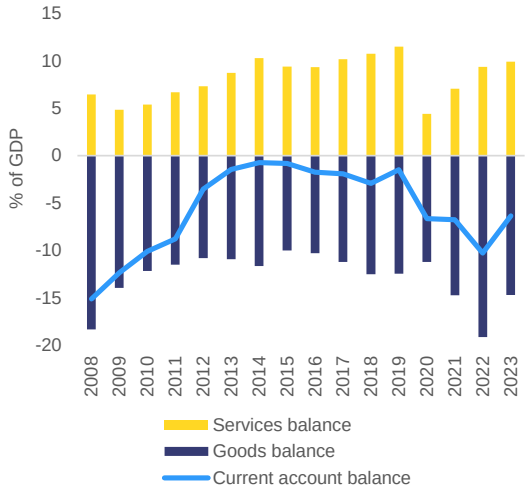
Economic growth is set to remain solid

After swiftly recovering from the COVID-19 shock, Greece's real GDP growth remains well above the EU average ([1]). Following the rapid post-pandemic pick-up in 2021 and 2022, when the annual growth rate averaged 7%, real GDP increased by 2% in 2023. Consumer spending stayed solid, fuelled by income growth, while tourism revenue picked up and net exports strengthened. By contrast, after very strong growth in 2021 and 2022, investment decelerated in 2023 as interest rates inched upward. However, capital accumulation has been supported by a strong take-up of loans under the Recovery and Resilience Facility (RRF). GDP growth is expected to pick up slightly to 2.2% in 2024 and 2.3% in 2025 and to continue to exceed its long-term potential, supported by strong investment due to easing credit conditions and significant EU funding.

Inflation is set to continue its gradual decline. HICP (consumer price) inflation fell from 9.3% in 2022 to 4.2% in 2023, 1.2 percentage points (pps) below the euro area average. Although price pressures from previous energy price shocks have been fading, steady wage growth and persistent food inflation are expected to slow the drop in HICP inflation. As a consequence, HICP inflation is set to remain relatively high at 2.8% in 2024, before falling to 2.1% in 2025.

The public debt-to-GDP ratio continued to decline in 2023 but is still high. Driven by an increase in nominal GDP and a narrowing headline budget deficit, the public debt-to-GDP ratio declined from its peak of 207% in 2020 to 172.7% in 2022 and then to 161.9% in 2023. While it is still the highest in the EU, liquidity and rollover risks are limited as a substantial part of Greece's public debt is held by official creditors at concessional rates and terms. Furthermore, in 2023, after more than a decade, Greece's credit rating returned to investment grade according to three out of the four major rating agencies.

Graph 1.1: **Trade and current account balances**



Source: Bank of Greece

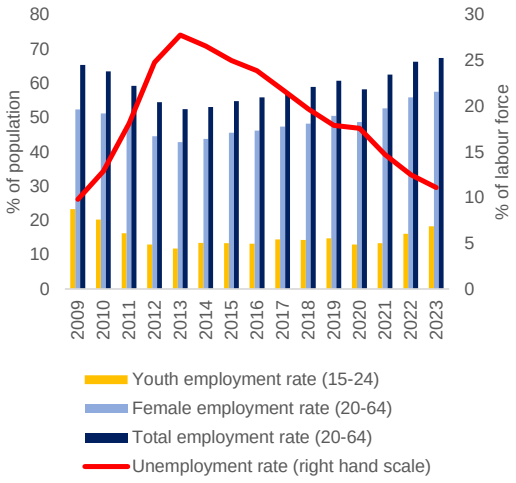
The external balance improved markedly in 2023 but remains below its pre-pandemic level. The post-pandemic recovery and the energy crisis have led to a widening of the current account deficit, which peaked at 10.3% of GDP in 2022, implying a significant increase in Greece's net liabilities to foreign creditors and investors ('net external liabilities'). In 2023, the current account deficit narrowed to 6.3% of GDP, largely driven by the reduction of energy prices (Graph 1.1). Greece's net external liabilities declined to 140.5% of GDP by 2023, substantially below their peak of 174.3% recorded in 2020. While they remain the highest in the EU, the medium-term risks associated with external

([1]) The cut-off date for the data used to prepare the 27 Country Reports was 15 May 2024.

indebtedness are mitigated by the concessional nature of a large part of the external debt. The external rebalancing is expected to continue in 2024 and 2025, albeit more slowly.

The labour market continued to improve in 2023, but it still faces significant challenges. Employment growth picked up in 2023, and the employment rate rose to 67.9% in the fourth quarter of 2023 (20-64 age group). The latter was above pre-pandemic levels, but still below the EU average of 75.5%. The unemployment rate declined in 2023 reaching 10.2% in March 2024 (Graph 1.2). Meanwhile, several sectors of the economy report labour shortages and skills mismatches and low participation rates continue to be major challenges. Employment is expected to continue growing in 2024 and 2025, albeit more slowly.

Graph 1.2: **Selected labour market indicators**



Source: Eurostat

Banks' longer-term profitability and the quality of capital remain a concern. Banks' profitability improved and capital ratios increased in 2023, but are still the second lowest in the EU ([2]). Moreover, concerns persist about the quality of regulatory capital due to the high, albeit decreasing, share of deferred tax credits ([3]). Furthermore, banks' profitability might deteriorate due to narrowing interest rate margins, potentially higher provisioning needs and rising funding costs. Corporate credit growth has slowed between December 2022 and September 2023, amid tightening financial conditions. However, it has performed well compared to other euro area countries, supported by the strong take-up of loans under the RRF. By contrast, household credit growth has been negative since 2010.

Despite the strong recent performance, Greece continues to exhibit macroeconomic vulnerabilities. An in-depth review was carried out as part of the macroeconomic imbalance procedure earlier this year ([4]). It found that Greece's long-standing vulnerabilities receded on all fronts in 2023 but warranted further adjustment and close monitoring. The expected further improvement in fiscal balances is set to ensure that the public debt continues to decline. The current account deficit narrowed markedly in 2023 but remained high; external rebalancing is challenging amid high consumer spending (as a share of GDP) and increasing investment. In the meantime, the reduction of the net external liability ratio (net external liabilities as a share of GDP) would require a more pronounced improvement in external balances. The unemployment rate declined in 2023 but remains among the highest in the EU. The stock of non-performing loans (NPL) held by banks also continued to decline in 2023; however, only limited progress has been made in reducing the NPL portfolio held by servicers, which continues to weigh on the economy (Annex 18).

([2]) Banks' average Common Equity Tier 1 and Total Capital ratios stood at 14.3% and 17.6% in September 2023.

([3]) These deferred tax credits accounted for 44% of total prudential own funds in December 2023 at consolidated level.

([4]) European Commission (2024), SWD(2024) 102 final.

Box 1:

Greece's competitiveness in brief

Greece's competitiveness has started to improve, supported by strong reform momentum in business and public administration and a reduction in the administrative burden on companies. Greece increased its export market share in world exports from 0.29% in 2016 to 0.36% in 2022, recording the highest export market share gain among all EU member states. The country's trade integration into the single market also increased from 17.8% in 2018 to 23.1% in 2022 but remains far from the EU average (Annex 12).

However, competitiveness challenges remain:

- **The business environment is held back** by the relatively heavy and frequently changing regulatory and administrative framework that lacks transparency, and a legal system that is not considered efficient enough and protective of property rights;
- **Regulatory barriers, the shadow economy and limited access to finance, especially for SMEs,** continue to hamper competition, private investment, and productivity growth;
- **Skill mismatches, low education outcomes in basic skills and lack of proper incentives** still discourage people from looking for work and restrain innovation.

Boosting labour productivity is key for long-term competitiveness

Labour productivity has been rising but is still well below the EU average. Following a decade of decline, real labour productivity started to increase in 2021 at rates above the EU average, partly due to the COVID-19 crisis that triggered the digital transformation of businesses. However, despite the recent pick-up in investment, the legacy of subdued investment over the previous decade has hampered productivity developments. At sectoral level, the largest productivity gains were generated by manufacturing and in service sectors, except for tourism activities, while since 2018, the largest losses have been recorded in the energy and mining sectors. Overall, Greece continues to have a substantial productivity gap with the rest of the EU. GDP in purchasing power standards per hour worked corresponded to 57.4% of the EU average in 2023 (Annex 12).

Relatively low R&D spending and skills gaps continue to hamper productivity. Despite having increased significantly in recent years, R&D expenditure amounted to 1.5% of GDP in 2022, below the EU average of 2.2%, mostly due to low, though increasing, spending by businesses (Annex 11). Meanwhile, the education system's performance is mixed. There are good results in reducing the number of students leaving school early and achieving higher rates of post-secondary educational attainment. However, there are also poor and deteriorating results in basic skills as reflected in the recent Programme for International Student Assessment (PISA) survey of the OECD (Annex 15).

Greece recorded significant cost competitiveness gains over the last decade. Unit labour costs (labour cost per unit of output) declined by more than 10 pps between 2009 and 2019 owing to the substantial wage cuts during that period. Looking ahead, although unit labour costs are projected to increase, the pace is expected to be comparable to the country's trading partners. This means that Greece is likely to retain its competitiveness gains. However, although Greece has been exporting higher volumes of high-tech goods more recently, the country's comparative advantage continues to be largely in products with relatively low technological sophistication.

Non-cost competitiveness remains a challenge despite recent progress. Greece's competitiveness ranking has

Box 2:

UN Sustainable Development Goals (SDGs)

Greece is progressing on all SDG indicators related to competitiveness and productivity (SDGs 4, 8, 9), although it needs to catch up with the EU average. SDGs 4 and 9 related to education and innovation performance have seen mixed results. In 2022, Greece performed better than the EU average in reducing the number of students leaving school early and increasing post-secondary educational attainment. However, there are still significant challenges with the basic skills of 15-year-olds (Annex 15), adult learning participation and R&D spending. Decent work and economic growth indicators (SDG 8) continue to improve but still need to catch up with EU average, as shown by the low employment rate and the high proportion of long-term unemployed people and of young people not in education, employment or training relative to the EU (Annex 1).

Out of the 17 SDGs indicators, 15 remain below the EU average. Besides those highlighted above, these relate to environmental stability (SDGs 2, 6, 11, 12, 13), fairness (SDGs 3 and 5) and macroeconomic stability (SDG 16). There is room for further improvement, particularly in tackling unemployment, inequalities and poverty, especially in rural areas (Annex 1). Despite this, Greece fares better than in the past in several areas of fairness, productivity and macroeconomic stability. EU funds such as the RRF and cohesion policy funds are key to supporting Greece's efforts to meet its SDGs (Annexes 3 and 4) and its 2030 national targets on employment, skills and poverty reduction (Annexes 5 and 14).

improved since 2019 ([5]). Besides reforms under the recovery and resilience plan (Section 2), this improvement has been driven by the ongoing digital transformation of businesses and the steady reduction of the administrative burden on them. However, further efforts are needed to improve the business climate that is weakened by the inefficient procurement system, a high proportion of single bid procurements (50% in 2023), regulatory restrictions, an inefficient environmental licensing system and caps on the price of certain product groups ([6]) (Annex 12).

The legacy of subdued investment has hampered economic convergence to the EU. The sovereign debt crisis was accompanied by a more than 60% contraction in real investment between 2008 and 2016. Household investment registered the largest drop, but corporate investment also declined, hindering productivity growth. Investment growth has picked up since 2021, but the investment-to-GDP ratio remains well below the EU average. In 2023, Greek firms reported that the main obstacles to investment were uncertainty, high energy costs, unavailability of skilled staff and business regulations. ([7]). Despite recent improvements, including through the loans of the RRF, the high cost of borrowing and access to finance constraints continue to adversely affect investment (Annex 18).

Promoting social and territorial cohesion remains a key priority

Working and living conditions have improved, but major challenges remain. The Social Scoreboard established following the European Pillar of Social Rights paints a mixed picture. Despite recent increases in the employment rate, getting into work or training is still particularly challenging for long-term unemployed people, people with a disability, young people and women. Only around 50% of women are employed as opposed to more

([5]) Greece was ranked 49 (out of 64 countries) in 2023, an improvement of 9 places relative to its ranking (58) in 2019 (see https://www.imd.org/centers/wcc/world-competitiveness-center/rankings).

([6]) Since 2020, Greece has capped the price or gross profit margins on certain food products, has mandated supermarkets to reduce prices for certain 'basic' products and has extended the circle of goods covered.

([7]) See EIB Investment Survey Country Overview 2023: Greece.

than 70% of men, resulting in one of the largest gender employment gaps in the EU. The social protection system has a limited ability to reduce poverty and inequalities. After increasing in 2021, the proportions of people and of children (aged below 16) at risk of poverty or social exclusion decreased in 2022 and 2023, but are still above the EU averages. People in need of long-term care face significant financial barriers and have high unmet needs as there are limited formal long-term care services that provide universal coverage. Energy poverty is high, and the proportion of households overburdened by housing costs was almost three times higher than the EU average in 2022 (Annex 14).

Regional disparities persist. More than 50% of Greece's population and 60% of its economic activity is concentrated in the regions of Attica (Athens) and Central Macedonia (Thessaloniki). This has led to large disparities in economic and social performance across the country. These disparities have remained largely unchanged over the last decade, even as they have been narrowing in the EU. The large differences in GDP per capita are primarily due to inequalities between the regions in innovation, digital integration and skills (Annexes 11, 15 and 17).

IMPLEMENTATION OF KEY REFORMS AND INVESTMENTS USING EU INSTRUMENTS

Funding from the Recovery and Resilience Facility (RRF) and cohesion policy funding is mutually reinforcing Greece's efforts to boost its competitiveness and foster sustainable growth. In addition to the EUR 35.9 billion of RRF funding described in Annex 3, cohesion policy provides Greece with EUR 20.5 billion for the 2021-2027 period. Support from these two instruments combined represents close to 25.64% of the country's 2023 GDP, compared to an EU average of 5.38% of GDP (Annex 4).

Under its recovery and resilience plan (RRP), Greece has launched important policy measures that are expected to improve the country's competitiveness. The RRP envisages major reforms in public administration and taxation, justice, the labour market, waste and water management, electric vehicles, and renewable energy sources. Greece has also made substantial investments in the energy renovation of buildings, the digital transformation of small and medium-sized companies (SMEs) and the digital and green upskilling of its workforce.

The implementation of Greece´s recovery and resilience plan is underway, however timely completion will require further efforts. Greece has submitted four payment requests, corresponding to 87 milestones and targets in the plan and resulting in an overall disbursement of EUR 14.88 billion on 28 December 2023 (see Annex 3). The size and complexity of the plan, and challenges linked to absorption capacity, call for accelerating investments and addressing risks of delays while strengthening administrative capacities to ensure that reforms and investments can be completed on time. The Greek authorities have adopted measures to improve the implementation and boost administrative capacity, while the recovery and resilience plan contains further specific measures that are expected to help achieve that objective. Specific challenges for Greece include: (i) lengthy litigation processes to address legal claims against public procurement procedures risking delays in the planned completion date of investments beyond August 2026; (ii) slow transfer of property rights; and (iii) weak coordination, particularly evident as regards investment and reforms covering policy areas stretching beyond the remit of a single Ministry. The systematic involvement of local and regional authorities, social partners, civil society and other relevant stakeholders remains essential to ensure broad ownership for the successful implementation of the recovery and resilience plan.

Cohesion policy funding helps tackle Greece's growth and competitiveness challenges and reduce the country's territorial and social disparities. Under the 2014-2020 cohesion policy programming period, support focused on the areas of digital connectivity, energy efficiency, solid waste and water management, education, and employment. In the current 2021-2027 programming period, support aims to further support the circular economy, water management, climate-related risk mitigation, education and skills, employment, healthcare and long-term care.

Removing regulatory and administrative barriers to business

Implementing RRP measures has eased the regulatory and administrative burden on firms. Greece improved the legislative framework for attracting strategic investments and developing industrial parks. This includes the launch of a subsidy scheme to equip these parks with smart, energy-efficient digital technologies, and measures to support the

circular economy. Greece also introduced tax incentives as a first step to encourage electronic transactions and started interconnecting online cash registers and point-of-sale systems with tax authorities. To increase the predominantly small size of Greek businesses, a law entered into force in 2022, bringing in tax and other incentives for mergers, conversions, acquisitions and cooperation schemes.

EU funds contribute to making the public administration more efficient. Under Greece's RRP, a multi-level governance model has been adopted to streamline the allocation of responsibilities among the central, regional and local public administration levels and increase accountability. The country also adopted a national anti-corruption plan and legislation on asset declarations and audits. To combat the smuggling of products with excise duties, Greece put in place a more effective monitoring and sanctions system. Building on these efforts, the Commission's Technical Support Instrument (TSI) is helping Greece strengthen its public administration, including through the development of a task force against disinformation and the professionalisation of public procurement staff.

Greece eased access to finance constraints by making loans available on favourable terms and strengthening capital markets supervision. The RRF has enabled much-needed loan financing to companies on favourable terms through the Loan Facility. Up until March 2024, 280 loan contracts worth EUR 4.75 billion in RRF loans had been signed between financial institutions and investors. These support private investments in green and digital areas, increase export capacity and support economies of scale and innovation. Out of those approved loan contracts, 136 (48.6% of the total) were signed with SMEs. Overall, more than a fifth of all new corporate loans in Greece in 2023 came from the RRF. Greece also made organisational changes to the Hellenic Capital Market Commission and adapted its processes to improve market supervision and promote non-bank financing.

Unlocking investments for the green and digital transitions

Greece has taken major steps to accelerate the digital transformation of the public administration and improve the accessibility of its services. Fully complementing cohesion policy funds that will support the digitalisation of more than 340 public institutions by 2029, Greece envisages several measures under its RRP to promote a digital public administration. In particular, the country has designed a far-reaching plan to digitalise and simplify administrative processes for transactions between individuals and public services. In this context, the digitisation of archives in key public sector areas, including justice, urban planning and the land registry has started as has the development of the digital infrastructure to increase the interoperability between different registers and IT systems. Greece has also launched investments in cybersecurity and a new IT system for public procurement. Combined with the upskilling of 250 000 public sector employees that started under the RRP, these investments should help make the public administration more efficient and

Box 3:

Combined action for EU funds to have more impact

To boost economic growth and maximise the impact of EU funding, Greece's RRP includes reforms that support and complement investments from other EU instruments, creating valuable synergies across the different funds. For example, to improve the quality of the national lifelong learning system and align it with employers' needs, Greece adopted a reform to improve the governance and delivery model of upskilling programmes. This RRP reform is accompanied by digital and green upskilling programmes for 500 000 unemployed and employed people that are also part of the RRP. These measures are being combined with investments under the European Social Fund+ for training another 900 000 people, including self-employed people and private sector employees in precarious jobs or sectors.

accessible to the public and businesses.

The RRP has helped SMEs become greener and more digital. Greece has introduced tax incentives and voucher schemes to help SMEs invest in advanced digital and green technologies: more than 500 000 SMEs will have been able to benefit from these schemes by the end of 2025. In the manufacturing sector, in particular, Greece launched a voucher scheme to help SMEs upgrade their production methods through state-of-the-art environmentally friendly technologies. The country also launched a scheme to increase energy efficiency in the agricultural sector and promote agrotourism, which supports the economic diversification and competitiveness of the rural economy.

Making effective use of various funding sources, Greece has taken action to eliminate the economic and social impact of phasing out lignite. The RRP includes investments in the affected regions of Western Macedonia and Megalopolis, focusing on soil remediation and redevelopment, landscape and environment restoration and changes to land use. The Just Transition Fund complements these efforts, financing investments in sustainable energy, green mobility, upskilling and job creation. These will all help local economies and communities adapt to the ongoing green transition.

Targeted legislative changes have set the ground for a more extensive use of renewable energy sources and sustainable transport. Greece simplified and digitalised licencing procedures to reduce barriers to investments in renewable energy sources and offshore wind parks. It also provided financial support for the production of renewable energy. To promote sustainable transport, Greece modernised the legal framework for public urban and regional passenger bus transport services, paving the way for a greener bus fleet. Greece also adopted a comprehensive regulatory framework to promote installing and operating electric vehicle charging points across the country, putting it on a path to reach the target of having 30% electric vehicles by 2030. Steps are also being taken to strengthen the organisation and governance of the rail infrastructure manager and continue to ensure robust rail safety, similar to the efficiency of operations. There are also planned investments to restore rail tracks destroyed by heavy storms in 2023. Building on these efforts, Greece has committed to implement the national action plan on rail safety, in which Greece committed to deliver urgently on the responsiveness of the Greek safety authority, the accident investigation body and the rail network operators and final safety related deliveries by 2026. Enhanced governance would ensure making full use of investments in signalling and the European Rail Traffic Management System (ERTMS). It would also help to gradually plan making the rail system climate-proof.

The improved institutional framework for managing waste, water and wastewater has led to more sustainable investments in these sectors and more efficient use of natural resources. Investments of around EUR 800 million from cohesion policy funds support optimal waste management, including through the rollout of recovery and recycling facilities. Complementing these investments, in 2021, Greece adopted, under its RRP, a law on waste management that introduced disincentives to landfilling. Greece also created a new regulatory authority for waste, energy and water management to support its transition to the circular economy. Complementary infrastructure investments from the European Regional Development Fund and the Cohesion Fund will allow more than 870 000 people to benefit from new or upgraded wastewater treatment facilities by 2027.

Investing in people for economic growth and resilience

Making use of various EU sources, Greece has taken measures to help more people get into work. Under the RRP, the country reorganised the public employment service and modernised labour legislation, allowing for more flexible working arrangements. Hiring

subsidies started to apply and should help more than 48 000 unemployed people get into work by the end of 2025. The European Social Fund (ESF+) will provide another 106 000 hiring subsidies to jobseekers with a focus on young people, women and long-term unemployed people. The ongoing expansion of childcare facilities can also help boost the number of people working or looking for work, especially women. More than 20 000 new childcare places are being created under the RRP. Upon completion in 2025, they will be complemented by measures under the ESF+ that will help another 170 000 children access childcare services.

Action under EU instruments help support access to social and health services. To support the independent living of people with a disability, Greece introduced a modern, tailor-made personal assistance scheme on a pilot basis under its RRP, paving the way for a nationwide launch by mid-2025. A second pilot on early childhood intervention programmes for around 1 400 children with a disability aged up to 6 years is also under way. In addition, to improve access to healthcare, Greece created 50 mental health units and is in the process of renovating 80 hospitals across the country. These efforts will be followed by investments under the ESF+ to promote equal access to education for more than 11 500 pupils and students with a disability and set up more than 1 200 social and health structures across Greece.

FURTHER PRIORITIES AHEAD

Greece faces additional challenges with the efficiency of its public administration, the functioning of the financial sector, the regulatory framework for businesses, the labour market and the green transition. Tackling these challenges will help increase Greece's long-term competitiveness and ensure the resilience of its economy. It will also help make further progress in achieving the SDGs.

It is important that the identified challenges are addressed at both national and regional levels. Doing so will reduce regional disparities and improve the administrative and investment capacity in a balanced way across the country.

Staying focused on the sustainability of public finances

The headline budget deficit reached 1.6% of GDP in 2023, down from 2.5% in 2022. This reduction was driven by the sharp decline in the cost of energy-related measures and the increase in current revenues that were only partially offset by the increase in interest rate expenditure. Public investment spending has increased and reached a nominal level of 8.6 billion, the highest value since 2009, partly due to the accelerating execution of investments under the recovery and resilience plan. Implementation of the cohesion policy funds is progressing, with the programmes under the new cycle still to deliver their full potential.

Still high public sector indebtedness points to the need for prudent fiscal policies. Although the public sector debt-to GDP ratio has declined by approximately 45 percentage points over the last three years, it remains the highest in the EU. Government debt is forecast to continue declining to 153.9% of GDP by the end of 2024 but will still be the highest in the EU. The Commission's debt sustainability analysis, which assesses the country's ability to repay its debt, indicates that risks to debt sustainability are low in the short term, high in the medium term and low in the long term. Achieving the targeted primary budget surplus of above 2% of GDP is crucial to ensure the rebalancing of the economy (Annex 21).

Further efforts to strengthen tax administration could help address the investment gap and increase tax compliance. Greece's VAT gap fell from 34% of GDP in 2017 to 17.8% of GDP in 2021. This suggests that the increased use of electronic payments and efforts taken to combat tax evasion are moving Greece in the right direction. However, the VAT gap is still the third highest in the EU, with lost revenue estimated at more than 1.4% of GDP (Annex 19). This shows the importance of stepping up tax compliance efforts, including through expanding the tax administration's capacity by strengthening its operational autonomy to manage and develop its human resources. This includes covering staffing needs in key functions, such as IT staff, which are deemed critical for the tax administration's digital transformation. Lastly, bringing in a wider advance tax ruling system, in line with EU best practices, could give taxpayers a clear, consistent and transparent interpretation of the existing tax law. It could also provide investors with greater legal certainty and boost ongoing efforts to simplify the tax system.

There is room to increase the efficiency of Greece's public administration. Its performance remains relatively low as reflected, for example, in the difficulty of attracting new highly skilled civil servants. This low performance is particularly visible in

critical areas, such as policy coordination, digital governance, legal drafting and public sector workers' participation in lifelong learning (Annex 13), and risks affecting the timely and effective implementation of EU funds. Accelerating the 'executive branches' initiative started in 2019, which aims to increase the central administration's capacity in policy analysis, legal drafting and digital governance, should help tackle this issue. Despite the adoption of major legislation under the RRP on setting up a multi-level governance framework to improve coordination between the different levels of the administration, the framework is not fully operational yet. The framework includes developing an information system to track new legislation establishing new public bodies and/or assigning mandates to them. Prioritising sectors where significant overlaps of responsibilities have been identified (such as civil protection) would be particularly relevant.

To address fiscal challenges, efforts could be made to strengthen independent fiscal institutions. The Hellenic Fiscal Council has a fairly wide mandate, endorsing both macroeconomic and budgetary forecasts and monitoring fiscal rules. It does not appear to face issues with access to information. However, recruitment is limited to civil servants, and policy dialogue with the government and interactions with the Greek Parliament are not so well developed. In addition, the Council's outreach activities could be improved.

Ensuring a sound financial sector to promote economic growth and competitiveness

The quality of banks' assets continued to improve in 2023. Banks' non-performing loans (NPLs) as a share of total loans (NPL ratio) fell to 5.7% in September 2023 ([8]), down from 6.2% in 2022 and their peak of 42.7% in 2016. After a rapid decrease in recent years supported by securitisations under the Hercules scheme, the stock of NPLs continued to fall, albeit more slowly. However, the NPL ratio is still the highest in the EU and well above the EU average (1.8%). In 2023, banks continued to use non-organic measures (portfolio sales and securitisations) as dominant drivers in their NPL workout. The Hercules securitisation scheme expired in October 2022 but was relaunched in November 2023 to run until the end of 2024. The scheme is expected to help smaller banks clean up their balance sheets faster.

While banks have continued to remove non-performing debt from their balance sheets, a large amount of this debt remains in the economy. After a sizeable reduction in 2022 owing primarily to statistical reclassifications, a substantial amount of legacy NPLs was still held by credit servicers in 2023 (EUR 69.5 billion or 32% of GDP). Although these servicers are expected to proceed with further debt resolution and restructuring, the pace of the workout lags behind the original business plans. As a result, legacy NPLs continue to weigh on balance sheets, hampering private sector lending. The delay in the workout is mainly the result of low recoveries from collateral liquidations owing to the suspension of enforcement proceedings during the COVID-19 pandemic. However, it also reflects delays in court procedures and a high ratio of unsuccessful auctions. Despite some measures under the RRP (for instance, improving debt enforcement processes and the efficiency of the secondary NPL market) and considering the magnitude of the problem, further measures could help increase third-party demand for collateral and speed up the post-auction process. These could include improving e-auction processes by making more information available on auctioned properties and lifting the territorial exclusivity of notaries.

([8]) ECB data reported as a share of total gross loans and advances, i.e. including cash balances at central banks and other demand deposits in the denominator on a consolidated basis.

Limited access to finance impedes corporate investment, especially for small and medium-sized companies (SMEs). Measures aiming to deepen the capital markets include implementing the related national strategy, tackling the shadow economy (estimated at 20% of GDP by the Bank of Greece) and incentivising micro and small companies to scale up their operations. These measures can improve companies' bankability and financing opportunities (Annex 18).

Improving the regulatory framework to facilitate doing business

Regulatory barriers continue to weigh on competition and harm private investment and competitiveness. Despite numerous reforms and other improvements in the area, Greece continues to lag behind many EU countries in terms of business dynamism. According to the OECD intra-European Economic Area Services Trade Restrictiveness Index, Greece is still one of the countries with the highest level of restrictions in several key services sectors, such as maritime transport, construction, accounting, engineering and legal services ([9]). According to the ECB's SAFE survey ([10]), Greek SMEs face more difficulties in accessing bank credit than their EU counterparts. In addition, restrictions to enter certain key professions, such as architects, civil engineers, patent agents, tourist guides, lawyers and accountants, are higher than the EU average, weighing on competitiveness ([11]) (Annex 12). Meanwhile, low R&D investments by SMEs continue to impede innovation and the commercialisation of research outputs, which holds back productivity growth (Annex 11). Policy assessments under the macroeconomic imbalance procedure suggest that Greece could benefit from further implementing reforms and investments to improve productivity and competitiveness and to expand its export capacity.

Slow environmental licensing and regulatory gaps continue to hamper investment. Despite recent reforms outside the RRF framework to speed up the environmental licensing process, the regulatory framework in this area is still incomplete, preventing legislative improvements from having any impact. In particular, there is still no environmental classification for renewables ([12]) or conditions that determine under which circumstances industrial activities with a limited environmental impact can be licensed. The criteria for cases that require a lighter permitting process due to non-substantial changes also need to be set out. Encouraging private professionals to join the registry for certified environmental assessors ([13]) could also help reduce the backlog of cases. In addition, the legislative framework for the protection of Natura 2000 areas is still incomplete. This leads to continued legal uncertainty about the types of permissible investment in 30% of the country and threatens Greece's rich natural environment and the completion of the country's local urban plans. The quality of the studies to shape the content of the relevant implementing acts to protect Natura 2000 areas is crucial, and it would significantly benefit from proper public consultation and scientific evidence. Looking ahead, stronger mechanisms for better regulation at central and ministerial levels and more systematic legal codification, as well as addressing regulatory gaps and administrative shortcomings in environmental licensing, would help improve the business environment.

([9]) OECD intra-European Economic Area Services Trade Restrictiveness Index (STRI). https://oecd-main.shinyapps.io/STRI_Explorer/.

([10]) SAFE Survey. https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/ecb.safe202311~c94d2c3a78.en.html.

([11]) Communication on updating the reform recommendations for regulation in professional services (COM(2021) 385).

([12]) A new environmental classification is needed given the annulment of the relevant Decision by the Council of State (number 1885/2023).

([13]) As per Law 4014/2011, Presidential Decree 50/2021 and Joint Ministerial Decision 17185/2022.

Reinforcing the management of state assets and stimulating new funding is key to bridge investment gaps. There is significant scope to accelerate the growth and modernisation of state-owned enterprises (SOEs) and thus contribute to higher and more inclusive growth, improved services to the public and increased economic and climate sustainability. Reforms that proved successful in certain listed SOEs, such as the enhancement of the operational flexibility and commercial autonomy, the improvement of the procurement, remuneration and hiring policies and processes, and the strengthening of internal management capacities, are necessary for all SOEs to be able to create and capture increased value for the society and the economy alike. The Hellenic Corporation of Assets and Participations is creating a new fund aiming to mobilise additional domestic and foreign direct investment (FDI). Increasing its organisational and functional capacity and strengthening its operational autonomy and in-house investment expertise would help the Corporation to successfully cope with this new challenge. It is also crucial to strengthen the Corporation's corporate leadership and promptly identify priority areas that the new fund will focus on, in synergy with other available funds, to bridge investment gaps and stimulate new funding for transformative investments, including FDI.

Increasing and upskilling the workforce to boost productivity

As labour shortages increase in Greece, bringing unemployment further down requires targeted and decisive action. Although unemployment has dropped to pre-2008 levels, at around 10.2% in March 2024, it is still among the highest in the EU and it disproportionally affects women and young people, keeping poverty at relatively high levels (Annex 14). This calls for more targeted and intensified employment and training services for these population groups and more widespread formal early childhood education and care facilities to enable broader participation in the labour market. To further increase labour market participation and employment, Greece would benefit from developing an in-work benefit scheme targeted at lower-paid workers and encouraging more flexible work arrangements. It would also help to make full use of the upgraded labour market diagnosis mechanism for skills forecasting and to fully implement individual learning accounts.

While post-secondary educational attainment is high, and the proportion of students leaving school early is among the lowest in the EU, performance in basic skills is relatively low, undermining labour market outcomes, productivity and competitiveness. Greece adopted reforms to improve its education system over the past decade, and the RRP contains some measures to further revise curricula and upgrade education facilities. However, the performance of 15-year-old students in mathematics, reading and science has been deteriorating since 2012 and is one of the worst in the EU, according to the OECD's Programme for International Student Assessment (PISA) survey of 2022 (Annex 15) ([14]). Based on latest data, participation in early childhood education and care, which has been found to positively affect subsequent education outcomes, is also among the lowest in the EU. Against this background, the Greek education system could benefit from a further shift from purely knowledge-based teaching and learning methods to those based on competences as well as a stronger focus on entrepreneurial, soft and transversal skills. The country could also improve education outcomes by further increasing participation in quality early childhood education and care, expanding teacher evaluations and making schools more autonomous.

Rapidly increasing real estate prices make housing less affordable and more difficult for people to change jobs. Property prices have started to rise since 2018 largely as a result of a strong recovery in domestic and foreign demand. Apart from

([14]) OECD (2023), PISA 2022 Results (Volume I): The State of Learning and Equity in Education.

leading to less affordable housing, property price increases affect labour mobility. This further exacerbates the problem of skill mismatches and labour shortages, especially in areas with high labour demand, such as Attica or the islands. Looking ahead, Greece would benefit from a comprehensive social housing strategy that identifies social housing needs and streamlines policies and delivery tools.

Maintaining the momentum of the green transition

Greece is expected to reach its ambitious 2030 targets for renewable energy and energy efficiency. Greece has significantly accelerated the installation of renewable energy capacity and implemented a series of energy efficiency measures. Further, Greece has reiterated its commitment to phase out lignite from its electricity production by 2028, which is also part of Greece's first national Climate Law that was adopted in 2022.

Greece would benefit from streamlining the permitting framework for its electricity networks. This would facilitate their planned expansion, which is critical for safeguarding the grid's balance as more renewables are being integrated. The RRP, including its REPowerEU chapter, is expected to further accelerate Greece's green transition. New renewable energy source (RES) installations are in the pipeline ([15]) and would double the current RES capacity. It would stand to Greece to further expand the grid in the future, beyond what is already planned, including in the context of the RRP (e.g. through interconnections with the islands) (Annex 8). This expansion should match a potential increase in demand due to hydrogen development and a possible increase in exports. While the current plans for increasing the transmission and distribution networks would enable Greece to meet its renewable target for 2030 (27.3 GW), the existing grid permitting process and court proceedings to resolve expropriation cases are still lengthy. This could put the scheduled network expansion at risk. The addition of new renewables, including the significant volume from offshore wind, and the electrification of various sectors (e.g. transport and industry) calls for the electricity networks to be expanded further. This will, in turn, require a more streamlined permitting process.

Increasing Greece's energy storage capacity would reduce the need for curtailing green electricity. Adding more energy storage capacity, in particular, behind-the-meter storage systems, could contribute to tackling challenges linked to the high volatility of RES and reduce the need for curtailing electricity being produced by RES installations ([16]), which is expected to continue in the short term. Other solutions that would reduce the impact and need for curtailment would be strengthening flexibility measures, such as demand-side responses. Further, as concerns the deployment of new RES, although a legal framework for licensing new RES installations was adopted in 2022 (part of Greece's RRP), response times from certain public bodies, in particular local and regional authorities, have yet to be fully aligned with the provisions of this framework.

Energy poverty remains a challenge. One out of five households faces difficulties in adequately heating their homes, which is close to twice as high as the EU average (Annex 8). As part of its RRP, Greece adopted a comprehensive energy action plan in 2021 that envisaged a number of measures, including increased subsidies for households that are eligible for the social tariff scheme and targeted support to promote energy-efficient renovations. Given the rising number of households struggling to pay their utility bills, it would help to swiftly implement these measures and consider expanding their scope, in particular focusing on energy-efficient

([15]) The share of renewable electricity production, including from large hydropower plants, reached a historic high in 2023 (57%).

([16]) Curtailment refers to the deliberate reduction of output below what could have been produced in order to balance energy supply and demand or due to transmission constraints.

renovations. This would also contribute to increasing Greece's energy efficiency gains, which have slowed.

Greece continues to make progress in reducing its dependency on fossil fuels, but there is scope to step up efforts, in particular in the transport sector. Greece reduced its gas demand by 16% between August 2022 and December 2023, compared to the average demand of the previous 5 years (Annex 8). However, there is slower progress in reducing fossil fuel dependency in the transport sector, which remains one of the largest emitter of carbon dioxide. Greece has one of the oldest vehicle fleets in the EU, and the use of renewables in transport is still very low. The Climate Law adopted in 2022 promotes sustainable transport; for example, all new taxis in Attica and Thessaloniki are required to be electric as of 2026. Given that the RRP measures mainly focus on investment (e.g. electric buses/taxis, electric vehicle charging points), there is scope for more ambitious policy action to accelerate the electrification of the transport sector. This includes, for example, expanding the categories of vehicles that the Climate Law requires to switch from combustion engines to electric motors and enforcing the withdrawal of heavily polluting vehicles. Other policy action that could reduce air pollution in major cities is to reduce traffic in city centres through providing better public transport and discouraging the use of cars (e.g. by bringing in city tolls) (Annex 6).

The rising frequency and severity of natural disasters affecting Greece has put a heavy strain on the civil protection system. In 2023, Greece fell victim to severe wildfires and floods, which caused catastrophic harm to the natural environment and extensive damage to property and infrastructure. In particular, the August 2023 wildfire in Northern Greece was the largest ever to be recorded in the EU, and, in September 2023, Storm Daniel devastated the agricultural region of Thessaly. Investment in civil protection under the RRP predominantly focuses on improving the system's responsiveness mainly through the purchase of firefighting and other disaster-response equipment (such as helicopters, drones, fire engines, collapsible bridges) and less on prevention; only the Antinero measure on forest protection aims to reduce the risk of wildfire outbreaks. Reforms and investments to improve the effectiveness and efficiency of early warning, climate-proofing infrastructure and other risk prevention measures could complement these measures and help reduce the damage caused by future disasters. Given the increasing costs of post-disaster recovery, strengthened organisational capacities and more resources devoted to disaster recovery efforts may be needed as well. Moreover, the significant gap in wildfire insurance protection in Greece could pose a risk to public finances if insurance coverage remains low (Annex 6).

Sustainable water management continues to be a major environmental issue for the country. To help address related challenges (Annex 9), in 2023, Greece established a new water regulator as part of the Regulatory Authority for Waste, Energy and Water (RAAEY). Greece would benefit from accelerating the regulator's efforts to boost the skills and capacity of water service providers, including irrigation water service providers, and to rationalise water tariff policies in line with the 'polluter pays' principle.

Box 4:

The mid-term review of cohesion policy funds for Greece

The mid-term review of cohesion policy funds is an opportunity to assess cohesion policy programmes and to tackle emerging needs and challenges in EU Member States and their regions. Member States are reviewing each programme, taking into account among other things the challenges identified in the European Semester, including in the 2024 country-specific recommendations. This review forms the basis for a proposal by the Member State for the definitive allocation of 15% of the EU funding included in each programme.

Greece has made progress in implementing cohesion policy programmes and the European Pillar of Social Rights, but challenges remain as outlined in this report, including Annexes 14 and 17. In particular, Greece continues to register slow growth in more peripheral regions, and there are significant disparities between urban and non-urban areas. Against this background, it is important to continue implementing the planned priorities, with particular attention to: (i) improving the capacity of businesses to innovate, focusing on targeted business support; (ii) making the required investments in waste management to meet recycling targets and reduce landfilling; (iii) improving water management in an integrated manner, encompassing water and wastewater management, energy recovery, digitalisation, water reuse, rainwater and RES-based sustainable desalination; (iv) moving ahead with the energy transition, including renewable energy, storage solutions and energy efficiency, and increasing the availability of clean urban transport; (v) investing in skills based on a comprehensive strategy; (vi) implementing the Child Guarantee; (vii) promoting quality and affordable long-term care services and social housing; and (viii) getting more people from marginalised communities working or looking for work, such as Roma and people with a migrant background, and improving their social integration.

The potential to increase funding for the sustainable use of natural resources to make up for the backlog of investments from the previous programming period, merits specific consideration in preparation for the mid-term review. Greece could benefit from the opportunities provided by the Strategic Technologies for Europe Platform (STEP) initiative in the areas of digital technologies and deep tech innovation, clean and resource-efficient technologies, and biotechnologies to support the transformation of industry ([17]).

([17]) Regulation (EU) 2024/795.

KEY FINDINGS

With its wide policy scope and substantial financial envelope, Greece's recovery and resilience plan (RRP) includes measures to address a series of structural challenges in synergy with other EU funds, including cohesion policy funds, by:

- **Improving the business environment** by: (i) increasing the efficiency of public administration, including tax administration; (ii) modernising the judicial system; and (iii) providing favourable financial and tax incentives to private sector companies to help them grow, export and innovate;

- **Accelerating the green transition** by: (i) upgrading the energy efficiency performance of buildings; (ii) supporting the phasing out of lignite-based power generation and the use of renewable energy sources; (iii) expanding energy storage capacity; and (iv) investing in sustainable transport, water and waste management;

- **Supporting the digital transition** by investing in the digitalisation of the public administration and private sector companies, connectivity infrastructure and digital skills;

- **Developing a skilled workforce** by: (i) upgrading facilities at all levels of education; (ii) investing in skills; and (iii) creating new employment and training opportunities;

- **Improving social protection and inclusiveness** by strengthening the quality, efficiency and accessibility of the national social protection system, including the healthcare system.

The implementation of Greece's recovery and resilience plan is well underway. Going forward, it is facing risks and challenges. Further efforts are key for a successful implementation of all the measures of Greece's recovery and resilience plan by August 2026.

Beyond the reforms and investments in the RRP and cohesion policy programmes, Greece would benefit from:

- **Promoting balanced growth and supporting productive domestic investment** to ensure that external balances are put on a steadily improving path;

- **Pursuing a prudent fiscal policy to continue to improve the sustainability of public finances;**

- **Further improving the efficiency of the public administration** by making the recently adopted multi-level governance system fully operational;

- **Continuing to reduce the stock of non-performing loans held by banks and credit services,** including by improving the e-auction processes by making more information available on auctioned properties and lifting the territorial exclusivity of notaries;

- **Strengthening tax administration, facilitating investment and enforcing tax compliance,** including by introducing a wider advance tax ruling system and boosting the tax administration authority's operational autonomy;

- **Further improving the regulatory framework** by: (i) reviewing and removing unjustified restrictions in the entry to and exercise of professional services; (ii) speeding up environmental licensing procedures and completing the framework

for the protection of environmentally sensitive areas; and (iii) further improving the financial management of state-owned enterprises;

- **Helping more young people and women get into work or training and reducing poverty** by tackling underachievement in basic skills and further developing targeted employment and training programmes, combined with more flexible working practices and an in-work benefit scheme;

- **Expanding sustainable transport** by accelerating the decarbonisation of the transport sector and promoting the use of electric vehicles;

- **Strengthening the management of natural disasters** by putting in place an effective early warning and risk prevention system.

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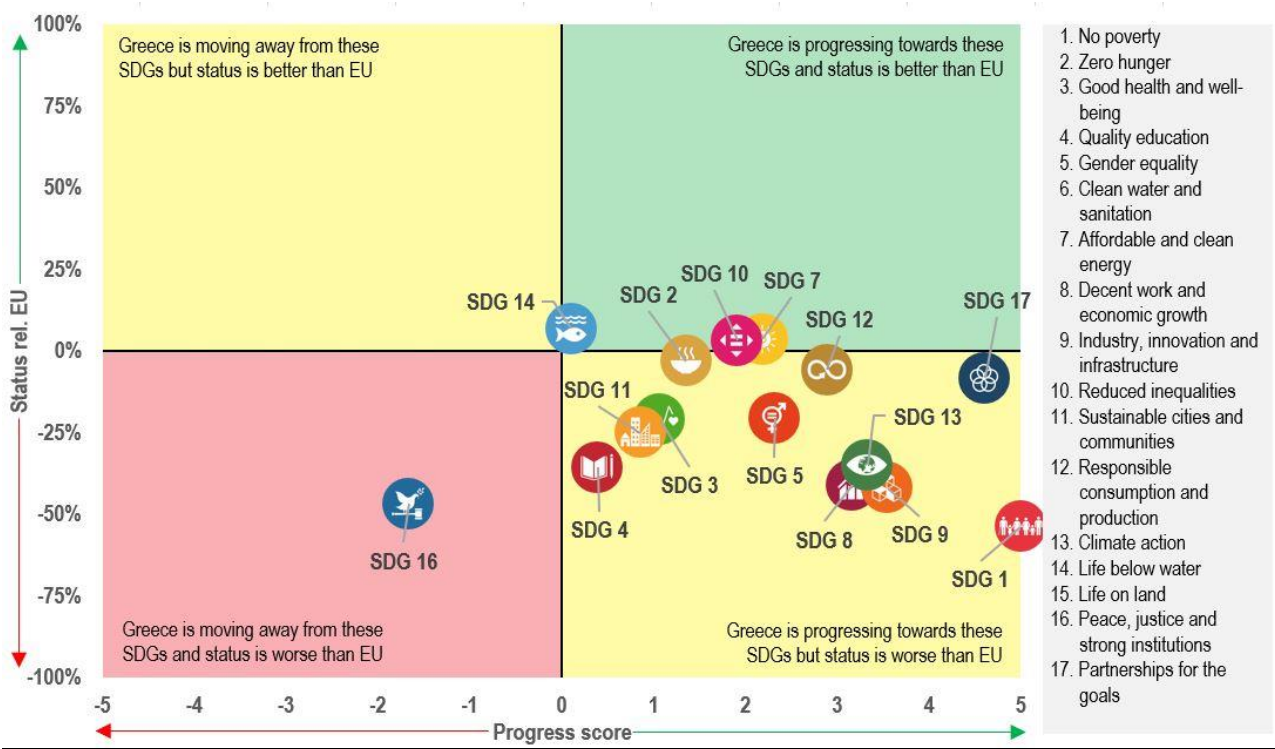
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ANNEX 1: SUSTAINABLE DEVELOPMENT GOALS

This Annex assesses Greece's progress on the Sustainable Development Goals (SDGs) along the four dimensions of competitive sustainability. The 17 SDGs and their related indicators provide a policy framework under the UN's 2030 Agenda for Sustainable Development. The aim is to end all forms of poverty, fight inequalities and tackle climate change and the environmental crisis, while ensuring that no one is left behind. The EU and its Member States are committed to this historic global framework agreement and to playing an active role in maximising progress on the SDGs. The graph below is based on the EU SDG indicator set developed to monitor progress on the SDGs in an EU context.

Greece is improving on all SDG indicators related to *environmental sustainability* (SDGs 2, 7, 9, 11, 12, 13, 14), although it needs to catch up with the EU average on nearly all of them. On SDGs 12 and 13 (Responsible consumption and production and Climate action), improvements were recorded between 2017 and 2022. Economic losses incurred due to climate-related effects (expressed as a 30-year average) fell by 16.6%, with Greece ranking more favourably in 2022 than EU peers. Furthermore, by 2022, the share of renewable energy in gross final energy consumption in Greece had reached 22.7% (vs 23% EU average), while energy productivity increased by 19.9%. Over the same period, Greece also fared particularly well on net greenhouse gas emissions. These fell by 16.9%, putting Greece very close to the EU average. On waste generation and management, the share of materials recycled and fed back into the economy for domestic use increased to 3.1% by 2022, although the figure still lagged significantly behind the EU average (11.5%). Meanwhile, despite substantial improvement, access to affordable and clean energy (SDG 7) remains challenging in some respects. In particular, in 2022, 18.7% of Greece's population were unable to keep their homes adequately warm (vs 9.3% EU average), while the

Graph A1.1: **Progress towards the SDGs in Greece**



For detailed datasets on the various SDGs, see the annual Eurostat report 'Sustainable development in the European Union'; for details on extensive country-specific data on the short-term progress of Member States: Key findings – Sustainable development indicators - Eurostat (europa.eu). A high status does not mean that a country is close to reaching a specific SDG, but signals that it is doing better than the EU on average. The progress score is an absolute measure based on the indicator trends over the past 5 years. The calculation does not take into account any target values as most EU policy targets are only valid for the aggregate EU level. Depending on data availability for each goal, not all 17 SDGs are shown for each country.

Source: Eurostat, latest update of 25 April 2024. Data refer mainly to the period 2017-2022 or 2018-2023. Data on SDGs may vary across the report and its annexes due to different cut-off dates.

country lagged significantly behind EU peers on energy import dependency, with 79.6% of imports in gross available energy (EU average: 62.5%). On SDG 14 (Life below water), Greece's performance is overall close to the EU average but the country has a higher share of marine waters affected by eutrophication relative to its EU counterparts. The EU Recovery and Resilience Facility will support a series of measures to promote environmental sustainability and the fight against energy poverty, including through investments in renewable energy sources, sustainable means of transport and energy efficiency infrastructures.

While Greece is improving on SDG indicators related to *fairness* (SDGs 1, 3, 4, 5, 7, 8, 10), it needs to catch up with the EU average on almost all of them. On SDGs 1 and 3 (No poverty and Good health and well-being), despite some improvements Greece still underperformed compared to EU average in 2022 across several domains: 26.3% of the population were at risk of poverty and social exclusion (vs 21.6%); 13.9% were materially and socially deprived (vs 6.7%); 9% of the population aged 19 or over reported unmet needs for medical care (vs 2.2%). In addition, 26.7% of Greece's population was overburdened with housing costs (vs 8.7% for EU peers). Greece continues to improve on certain aspects of equality (SDGs 5 and 10), but these remain less positive overall than in the EU as a whole. In 2023, the employment rate of women was 19.8% lower than that of men (against only 10.2% in the EU), while women held only 26.3% of senior management positions and 21.3% of political positions (against 33.8% and 33.2% respectively in the EU). Furthermore, people in rural areas in Greece face a disproportionally higher risk of poverty or social inclusion compared to those living in cities than the EU average (8.1% of the population vs 0.4% in 2022). When adjusted for purchasing power, GDP per capita in Greece was two thirds the EU average in 2023. On health (SDG 3), while healthy life expectancy (65.6 years) is slightly higher than in the EU (63.6 years) and more people report being healthy (77.2% vs 67.8%), the total consumption of antibiotics in Greece was 70% higher than the EU average. Up until 2026, the EU Recovery and Resilience Facility will support a wide range of measures to promote employment, including among women, the long-term unemployed and people with disabilities, and upgrade the national healthcare system.

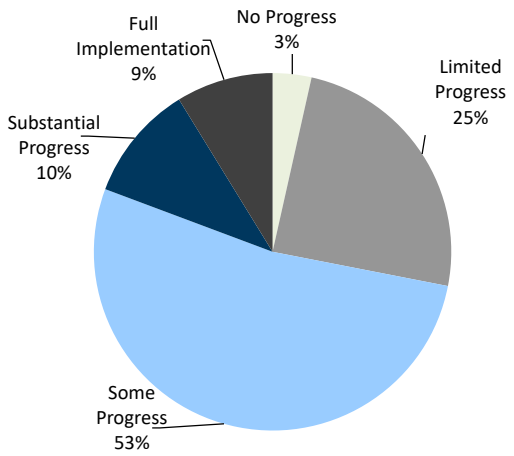
Greece is improving on SDG indicators related to *productivity* (SDGs 4, 8, 9), although it needs to catch up with the EU average on all of them. Greece's education and innovation performance (SDGs 4 and 9) is mixed, with better-than-EU average results in 2023 in early school leaving (3.7% vs 9.5%) and in tertiary educational attainment (44.5% vs 43.1%) but significant challenges in underachievement for 15-year-olds in basic skills (see Annex 15), in adult learning participation (3.4% vs 12.7%) and R&D spending (1.48% of GDP vs 2.24% in 2022). Moreover, according to 2023 data, there is a persisting gap on basic digital skills for adults (52.4% in Greece vs 55.6% EU average). Decent work and economic growth indicators (SDG 8) continue to improve but remained less positive than in other Member States in 2023, as reflected in the low employment rate (67.4%, vs 75.3% EU average), the still high share of long-term unemployed (6.2% vs 2.1%) and young people not in employment, education or training (15.9% vs 11.2%). With support from the EU Recovery and Resilience Facility, Greece is expected to upskill a large part of its working population, modernise its public employment services and upgrade its university education and research system.

With the exception of SDG 16, Greece is improving on SDG indicators related to *macroeconomic stability* (SDGs 8 and 17), although it needs to catch up with the EU average on all of them. Greece continues to underperform in terms of real GDP per capita in 2023 (SDG 8), which corresponded to 66.2% of the EU average. Furthermore, despite improvements, the investment gap persists: 13.7% of GDP in 2022 vs 22.9% in the EU, while some 10.6% of Greece's working population was at risk of poverty in 2022, compared to 8.5% in the EU. On SDG 16 (Peace, justice and strong institutions) Greece is moving away from the goal and continues to be worse off than EU peers, This is evidenced by the lower score in the Corruption Perceptions Index in 2023 (49 vs 64 EU average) and the higher number of victims of human trafficking in 2022 (340 000 vs 230 000 EU average). The Recovery and Resilience Facility will help bridge a large part of Greece's investment gap and support broad-based structural reforms, including in the areas of justice, public administration and the business environment, which are expected to improve the functioning of the economy at large.

As the SDGs form an overarching framework, any links to relevant SDGs are either explained or depicted with icons in the other annexes.

The Commission has assessed the 2019-2023 country-specific recommendations (CSRs) ([35]) addressed to Greece as part of the European Semester. These recommendations concern a wide range of policy areas that are related to 14 of the 17 Sustainable Development Goals (SDGs) (see Annexes 1 and 3). The assessment considers the policy action taken by Greece to date ([36]) and the commitments in its recovery and resilience plan (RRP) ([37]). At this stage of RRP implementation, 72% of the CSRs focusing on structural issues from 2019-2023 have recorded at least 'some progress', while 25% recorded 'limited progress' (see Graph A2.1). As the RRP is implemented further, considerable progress in addressing structural CSRs is expected in the coming years.

Graph A2.1: **Greece's progress on the 2019-2023 CSRs (2024 European Semester)**



Source: European Commission.

([35]) 2023 CSRs: EUR-Lex - 32023H0901(08) - EN - EUR-Lex (europa.eu)

2022 CSRs: EUR-Lex - 32022H0901(08) - EN - EUR-Lex (europa.eu)

2021 CSRs: EUR-Lex - 32021H0729(08) - EN - EUR-Lex (europa.eu)
2020 CSRs: EUR-Lex - 32020H0826(08) - EN - EUR-Lex (europa.eu)
2019 CSRs: EUR-Lex - 32019H0905(08) - EN - EUR-Lex (europa.eu)

([36]) Including policy action reported in the national reform programme and in Recovery and Resilience Facility (RRF) reporting (twice a year reporting on progress in implementing milestones and targets and resulting from the payment requests assessment).

([37]) Member States were asked to effectively address in their RRPs all or a significant subset of the relevant country-specific recommendations issued by the Council. The CSR assessment presented here considers the degree of implementation of the measures included in the RRP and of those carried out outside of the RRP at the time of assessment. Measures laid down in the Annex of the adopted Council Implementing Decision on approving the assessment of the RRP, which have not yet been adopted or implemented but considered credibly announced, in line with the CSR assessment methodology, warrant 'limited progress'. Once implemented, these measures can lead to 'some/substantial progress or full implementation', depending on their relevance.

Table A2.1: **Summary table on 2019-2023 CSRs**

Greece	Assessment in May 2024*	RRP coverage of CSRs until 2026**	Relevant SDGs
2019 CSR 1	**Substantial progress**		
Achieve a sustainable economic recovery and tackle the excessive macroeconomic imbalances by continuing and completing reforms in line with the post-programme commitments given at the Eurogroup of 22 June 2018.	Substantial progress	Relevant RRP measures being implemented as of 2021.	SDG 1, 2, 8, 9, 10, 16
2019 CSR 2	**Some progress**		
Focus investment-related economic policy on sustainable transport and logistics,	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 10, 11
environmental protection, energy efficiency, renewable energy and interconnection projects,	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 6, 7, 9, 10, 11, 12, 13
digital technologies,	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 9, 10, 11
R&D,	Some progress	Relevant RRP measures being planned as of 2022.	SDG 9, 10, 11
education,	Some progress	Relevant RRP measures being planned as of 2023.	SDG 4, 10, 11
skills,	Some progress	Relevant RRP measures being planned as of 2022.	SDG 4, 10, 11
employability,	Some progress	Relevant RRP measures being planned as of 2022.	SDG 8, 10, 11
health,	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 3, 10, 11
and the renewal of urban areas, taking into account regional disparities and the need to ensure social inclusion.	Some progress	Relevant RRP measures being planned as of 2022.	SDG 1, 2, 10, 11
2020 CSR 1	**Limited progress**		
In line with the general escape clause, take all necessary measures to effectively address the 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 investment.	Not relevant anymore	Not applicable	SDG 8, 16
Strengthen the resilience of the health system and	Limited progress	Relevant RRP measures being planned as of 2022.	SDG 3
ensure adequate and equal access to healthcare.	Limited progress	Relevant RRP measures being planned as of 2025.	SDG 1, 2, 3, 10
2020 CSR 2	**Substantial progress**		
Mitigate the employment and social impacts of the crisis, including by implementing measures such as short-time work schemes and	Full implementation	Relevant RRP measures being planned as of 2023.	SDG 1, 2, 8, 10
ensuring effective activation support.	Some progress	Relevant RRP measures being planned as of 2023.	SDG 8
2020 CSR 3	**Some progress**		
Swiftly deploy measures to provide liquidity and continued flow of credit and other financing to the economy, focusing in particular on small and medium-sized enterprises most affected by crisis.	Substantial progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 9
Front-load mature public investment projects and	Substantial progress	Relevant RRP measures being planned as of 2022.	SDG 8, 16
promote private investment to foster the economic recovery.	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 9
Focus investment on the green and digital transition, in particular on safe and sustainable transport and logistics,	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 11
clean and efficient production and use of energy,	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 7, 9, 13
environmental infrastructure and	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 6, 12, 15
very-high capacity digital infrastructure and	Some progress	Relevant RRP measures being planned as of 2022.	SDG 9
skills.	Some progress	Relevant RRP measures being planned as of 2022.	SDG 4
Improve the effectiveness and digitalisation of the public administration and	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 9, 16
promote digital transformation of businesses.	Some progress	Relevant RRP measures being planned as of 2022.	SDG 9

(Continued on the next page)

Table (continued)

2020 CSR 4	**Substantial progress**		
Continue and complete reforms in line with the post-programme commitments given at the Eurogroup of 22 June 2018 to restart a sustainable economic recovery, following the gradual easing up of constraints imposed due to the COVID-19 outbreak.	Substantial progress	Relevant RRP measures being implemented as of 2021.	SDG 1, 2, 8, 9, 10, 16
2021 CSR 1	**Not relevant anymore**		
In 2022, use the Recovery and Resilience Facility to finance additional investment in support of the recovery while pursuing a prudent fiscal policy. Preserve nationally financed investment.	Not relevant anymore	Not applicable	SDG 8, 16
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Not relevant anymore	Not applicable	SDG 8, 16
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, on both the revenue and expenditure sides of the budget, and to the quality of budgetary measures in order to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, in particular investment supporting the green and digital transition.	Not relevant anymore	Not applicable	SDG 8, 16
Give priority to fiscal structural reforms that will help provide financing for public policy priorities and contribute to the long-term sustainability of public finances, including, where relevant, by strengthening the coverage, adequacy and sustainability of health and social protection systems for all.	Not relevant anymore	Not applicable	SDG 8, 16
2022 CSR 1	**Some progress**		
In 2023, ensure prudent fiscal policy, in particular by limiting the growth of nationally financed primary current expenditure below medium-term potential output growth, taking into account continued temporary and targeted support to households and firms most vulnerable to energy price hikes and to people fleeing Ukraine. Stand ready to adjust current spending to the evolving situation.	Some progress	Not applicable	SDG 8, 16
Expand public investment for the green and digital transitions, and for energy security taking into account the REPowerEU initiative, including by making use of the Recovery and Resilience Facility and other Union funds.	Substantial progress	Not applicable	SDG 8, 16
For the period beyond 2023, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring credible and gradual debt reduction and fiscal sustainability in the medium term through gradual consolidation, investment and reforms.	Full implementation	Not applicable	SDG 8, 16
Building on reforms undertaken as part of the recovery and resilience plan, improve the investment-friendliness of the taxation system by introducing a wider advance tax-ruling system	No progress	Not applicable	SDG 8, 10, 12
and review the structure of the tax burden on the self-employed.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 8, 10, 12
Safeguard the efficiency of the public administration while ensuring it can attract the right skills and preserving consistency with the unified wage grid.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 16
2022 CSR 2	**Substantial progress**		
Proceed with the implementation of its recovery and resilience plan, in line with the milestones and targets included in the Council Implementing Decision of 13 July 2021.	RRP implementation is monitored by assessing RRP payment requests and analysing reports published twice a year on the achievement of the milestones and targets. These are to be reflected in the country reports.		
Swiftly finalise the negotiations with the Commission on the 2021–2027 cohesion policy programming documents with a view to starting their implementation.	Progress on the cohesion policy programming documents is monitored under the EU cohesion policy.		
Complete outstanding reforms that have been pursued under enhanced surveillance, including the cadastre reform.	Substantial progress	Relevant RRP measures being implemented as of 2022.	SDG 3, 8, 9
2022 CSR 3	**Limited progress**		
With a view to ensuring adequate and equal access to healthcare, complete the rollout of the primary healthcare reform in line with the framework amended under enhanced surveillance, including staffing of all primary healthcare units, implementing population registration and introducing effective gatekeeping by general practitioners.	Limited progress	Relevant RRP measures being planned as of 2023.	SDG 3
2022 CSR 4	**Some progress**		
Reduce overall reliance on fossil fuels, and diversify imports of fossil fuels	Limited progress	Relevant RRP measures being implemented as of 2022.	SDG 7, 9, 13
by accelerating deployment of renewable energy and the development of infrastructure that would enable renewable hydrogen.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 7, 9, 13
Also address dependency through ensuring sufficient capacity of electricity networks and interconnections as well as gas interconnections and diversifying gas supply routes.	Some progress	Relevant RRP measures being planned as of 2023.	SDG 7, 9, 13
Strengthen the energy services market framework	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 7, 9, 13
and step up energy efficiency-enhancing measures through reforms and market incentives to support the decarbonisation of the building sector	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 7
and the transport sector, particularly by promoting electric mobility.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 11

(Continued on the next page)

Table (continued)

2023 CSR1	**Some progress**		
Wind down the emergency energy support measures in force, using the related savings to reduce the government deficit, as soon as possible in 2023 and 2024. Should renewed energy price increases necessitate new or continued support measures, ensure that these are targeted at protecting vulnerable households and firms, fiscally affordable, and preserve incentives for energy savings.	Full implementation	Not applicable	SDG 8, 16
Ensure prudent fiscal policy, in particular by limiting the nominal increase in nationally financed net primary expenditure in 2024 to not more than 2,6 %.	Full implementation	Not applicable	SDG 8, 16
Preserve nationally financed public investment and ensure the effective absorption of grants under the Facility and of other Union funds, in particular to foster the green and digital transitions.	Limited progress	Not applicable	SDG 8, 16
For the period beyond 2024, continue to pursue a medium-term fiscal strategy of gradual and sustainable consolidation, combined with investments and reforms conducive to higher sustainable growth, in order to achieve a prudent medium-term fiscal position.	Full implementation	Not applicable	SDG 8, 16
Building on reforms undertaken as part of the recovery and resilience plan, improve the investment friendliness of the taxation system by introducing a wider advance tax-ruling system,	No progress		SDG 8, 10, 12, 16
enlarge the tax base, including by reviewing the current taxation structure for the self-employed,	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 8, 10, 12
and strengthen tax compliance by extending the use of electronic payments.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 8, 10, 12, 16
Preserve and increase the operational autonomy of the tax authority.	Limited progress	Relevant RRP measures being implemented as of 2023.	SDG 8, 16
Safeguard the efficiency of public administration while ensuring that it can attract the right skills and preserving consistency with the unified wage grid.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 16
Pursue the ongoing reduction of non-performing loans and further improve the functioning of the secondary non-performing loans market.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 8
2023 CSR2			
Maintain the momentum in the steady implementation of its recovery and resilience plan and swiftly finalise the REPowerEU chapter with a view to rapidly starting the implementation thereof. Ensure continued sufficient administrative capacity in view of the size of the plan. Proceed with the speedy implementation of cohesion policy programmes, in close complementarity and synergy with the recovery and resilience plan.	RRP implementation is monitored through the assessment of RRP payment requests and analysis of the bi-annual reporting on the achievement of the milestones and targets, to be reflected in the country reports. Progress with the cohesion policy programming is monitored in the context of the Cohesion Policy of the European Union.		
2023 CSR 3	**Limited progress**		
To ensure adequate and equal access to healthcare, complete the roll-out of the primary healthcare framework and adopt stronger incentives for the enrolment of an adequate number of family doctors in order to achieve full population coverage and population registration.	Limited progress	Relevant RRP measures being implemented as of 2023.	SDG 3
Finalise cadastral reform by completing cadastral mapping and through the establishment and operation of the Hellenic Cadastre Agency.	Some progress	Relevant RRP measures being implemented as of 2023.	SDG 8, 9
2023 CSR 4	**Some progress**		
Reduce reliance on fossil fuels and	Limited progress	Relevant RRP measures being implemented as of 2022.	SDG 7, 9, 13
further accelerate the diversification of energy supply routes.	Some progress	Relevant RRP measures being implemented as of 2023.	SDG 7, 9, 13
Further expand the deployment of renewable energy by completing and enforcing the new legal frameworks for the licensing process and for offshore wind farms, increasing electricity network and storage capacity, promoting the decentralised production of renewable energy and putting in place legislative frameworks for the production of renewable hydrogen and biomethane.	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 7, 8, 9, 13
Step up the delivery of measures that improve energy efficiency, including targeted measures for energy-poor households and the installation of smart meters, and	Some progress	Relevant RRP measures being implemented as of 2022.	SDG 1, 2, 7, 10
policy efforts aimed at the provision and acquisition of skills and competences needed for the green transition.	Limited progress	Relevant RRP measures being implemented as of 2022.	SDG 4
Support the decarbonisation of the transport sector, in particular by promoting electric vehicles.	Limited progress	Relevant RRP measures being implemented as of 2022.	SDG 11

Note:

* See footnote ([37]).

** RRP measures included in this table contribute to the implementation of CSRs. Nevertheless, additional measures outside the RRP are necessary to fully implement CSRs and address their underlying challenges. Measures indicated as 'being implemented' are only those included in the RRF payment requests submitted and positively assessed by the European Commission.

Source: European Commission.

This Annex provides a snapshot of Greece's implementation of its recovery and resilience plan (RRP), past the mid-way point of the Recovery and Resilience Facility's (RRF) lifetime. The RRF has proven central to the EU's recovery from the COVID-19 pandemic, helping speed up the twin green and digital transition, while adapting to geopolitical and economic developments, and strengthening resilience against future shocks. The RRF is also helping implement the UN Sustainable Development Goals and address the country-specific recommendations (see Annex 2).

The RRP paves the way for disbursing up to EUR 18.2 billion in grants and EUR 17.7 billion in loans under the RRF over the 2021-2026 period, representing 16.3% of Greece's GDP ([21]). As of mid-May 2024, EUR 14.9 billion has been disbursed to Greece under the RRF, comprising EUR 7.6 billion in grants and EUR 7.3 billion in loans.

Greece still has EUR 21.1 billion available in grants and loans from the RRF. This will be disbursed after the assessment of the future fulfilment of the remaining 295 milestones and targets ([22]) included in the Council Implementing Decision ([23]) (CID), ahead of the 2026 deadline established for the RRF.

Greece's progress in implementing its plan is recorded in the Recovery and Resilience Scoreboard ([24]). The scoreboard gives an overview of the progress made in implementing the RRF as a whole. Graphs A3.1 and A3.2 show the current state of play as reflected in the scoreboard.

Greece's RRP includes a REPowerEU chapter to phase out its dependency on Russian fossil fuels, diversify its energy supplies, and produce more clean energy in the coming years. To kick-start the REPowerEU chapter's implementation, EUR 158.7 million was disbursed as pre-financing on 25 January 2024. This helped launch relevant reforms, including the facilitation of production of renewable hydrogen and bio-methane, optimisation of land and sea space usage for the development of renewables, and the promotion of energy sharing, energy communities and self-consumption.

The plan has a strong focus on the green transition, dedicating 38.1% of the available funds to measures that support climate objectives and 22.1% of its total allocation to support the digital transition. It also retains a strong social dimension with social protection measures, especially related to fostering labour market activation and upskilling for employees and those unemployed.

Table A3.1: **Key facts of the Greek RRP**

Initial plan CID adoption date	13 July 2021
Scope	Revised plan with REPowerEU chapter
Last major revision	8 December 2023
Total allocation	EUR 18.2 billion in grants and EUR 17.7 billion in loans (16.3% of 2023 GDP)
Investments and reforms	103 investments and 75 reforms
Total number of milestones and targets	381
Fulfilled milestones and targets	86 (22.6% of total)

Source: RRF Scoreboard

With three payment requests completed, Greece's implementation of its RRP is underway. However, timely completion requires increased efforts. The Commission gave a positive assessment of Greece's first and second payment requests, taking into account the opinion of the Economic and Financial Committee. This led to EUR 3.6 billion being disbursed in financial support on 8 April 2022; and EUR 3.6

([21]) GDP information is based on 2023 data. Source: https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html?lang=en

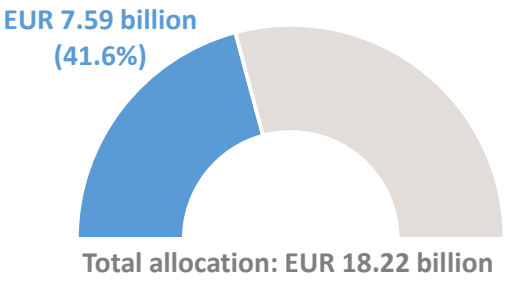
([22]) A milestone or target is satisfactorily fulfilled once a Member State has provided evidence to the Commission that it has reached the milestone or target and the Commission has assessed it positively in an implementing decision.

([23]) https://data.consilium.europa.eu/doc/document/ST-10152-2021-ADD-1/en/pdf

([24]) https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

billion on 19 January 2023 ([25]). The related 43 milestones and targets covered reforms and investments such as those related to the Loan Facility, to make the electricity market fit for a high share of renewables, develop a modern railway network, promote a greener public bus fleet., and others in the areas of energy efficiency, waste management, labour market, taxation policy, business environment and healthcare.

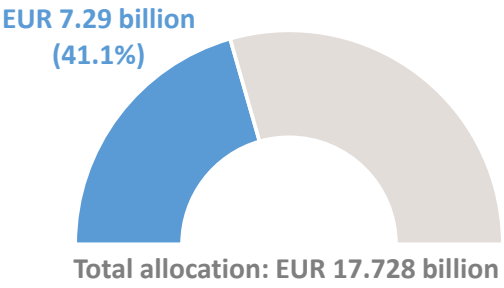
Graph A3.1: **Total grants disbursed under the RRF**



Note: This graph displays the amount of grants, including pre-financing, disbursed so far under the RRF. Grants are non-repayable financial contributions. The total amount of grants given to each Member State is determined by an allocation key and the total estimated cost of the respective RRP.
Source: RRF Scoreboard

The most recent payment request, which the Commission assessed positively on 28 November 2023, led to the disbursement of EUR 3.6 billion on 28 December 2023. The disbursement reflected the positive assessment of 43 milestones and targets covering among others investments in electromobility and charging infrastructure for electric vehicles, energy-efficiency renovations in residential buildings and the digitalisation of public administration; as well as a series of reforms to enhance efficiency in the public administration, to accelerate the delivery of justice, and to enhance the fight against corruption and smuggling.

Graph A3.2: **Total loans disbursed under the RRF**



Source: RRF Scoreboard

As of 15 May 2024, the Commission is assessing Greece's fourth payment request for loans. Table A3.2 highlights some relevant measures achieved so far, and some that will be implemented before 2026 to keep making Greece's economy greener, more digital, inclusive, and resilient.

Table A3.2: **Measures in Greece's RRP**

Reforms and investments implemented
• Incentivization regime for productivity and extroversion of enterprises • Strengthening the National Anti-Corruption Framework • Framework for installation and operation of electric vehicle charging infrastructure
Upcoming reforms and investments
• Energy renovation of residential buildings • Reform of the taxation of the self-employed • Upskilling, reskilling and employment programmes

Source: FENIX

([25]) When requested payments are disbursed, the pre-financing is cleared proportionally. The net amounts are quoted here.

EU funding instruments provide considerable resources for recovery and growth to the EU Member States. In addition to the EUR 35.9 billion of Recovery and Resilience Facility (RRF) funding described in Annex 3, EU cohesion policy funds ([26]) provide EUR 20.5 billion to Greece for the 2021-2027 period ([27]). Support from these two instruments combined represents 25.64% of the country's 2023 GDP, compared to an EU average of 5.38% of GDP ([28]). Cohesion policy supports regional development, economic, social and territorial convergence and competitiveness through long-term investment in line with EU priorities and with national and regional strategies.

During the 2014-2020 programming period, cohesion policy funds boosted Greece's competitiveness, with tangible achievements notably in digital connectivity, energy efficiency, water management, education and employment. By the end of the eligibility period in December 2023, 2014-2020 cohesion policy funds ([29]) had made EUR 18.3 billion available to Greece ([30]), of which EUR 10.9 billion has been disbursed since March 2020, when the COVID-19 pandemic began ([31]). Thanks to the 2014-2020 cohesion policy funds, around 46 600 households benefit from an improved energy consumption classification, at least 66 284 households benefit from upgraded ICT infrastructure resulting in faster broadband access (at least 30 Mbps), 706 534 people benefit from improved drinking water supply, and 355 673 population equivalents benefit from improved waste water treatment. The competitiveness of Greek regions has been increasing since 2016, and Greece's regional innovation performance has improved in recent years (see Annex 17). During the same period, the European Social Fund (ESF) supported training initiatives to increase employability and improve the Greek education and training system. Programmes funded by the ESF have helped more than 360 000 people gain a new qualification or a new skill.

In the current programming period (2021-2027), cohesion policy will provide a further boost to Greece's competitiveness, to the green transition and to social cohesion, improving the living and working conditions of Greece's people. In 2021-2027, the European Regional Development Fund and the Cohesion Fund will support more than 41 000 businesses, around 870 000 people will benefit from new or upgraded wastewater treatment facilities, and some 1 million pupils will enjoy new or modernised education facilities. The Just Transition Fund (JTF) – with a total allocation of more than EUR 1.6 billion – will invest in Western Macedonia, Megalopoli and the islands to address the impact of the energy and climate transition away from lignite, facilitating the transition towards climate neutrality. This will also help people overcome the challenges of the green transition. The European Social Fund Plus (ESF+) will dedicate more than EUR 1.5 billion to combating poverty and social exclusion. The main areas of ESF+ action include tackling child poverty, strengthening social integration of vulnerable groups, and supporting the operation of more than 1 200 social and health structures across Greek regions. With this work, cohesion policy substantially contributes to achieving the UN Sustainable Development Goals (SDGs) in Greece, in particular SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation, infrastructure) and SDG 7 (Affordable and clean energy).

Through combined action, cohesion policy and the recovery and resilience plan (RRP) have a mutually reinforcing impact in Greece. For instance, a cohesion policy funds allocation of EUR 2 billion will help Greece follow EU rules on circular economy and wastewater management, while the RRP includes important reforms for both the solid waste sector and the water sector in Greece, aiming to strengthen governance in both sectors, including governance of beneficiaries (FODSA, DEYA and municipalities). In the area of

([26]) In 2021-2027, cohesion policy funds include the Cohesion Fund, the European Regional Development Fund, the European Social Fund Plus and the Just Transition Fund.

([27]) European territorial cooperation (ETC) programmes are excluded from the figure. In 2021-2027, the total investment, including national financing, amounts to EUR 25.7 billion.

([28]) RRF funding includes both grants and loans, where applicable. The EU average is calculated for cohesion policy funds excluding ETC programmes. GDP figures are based on Eurostat data for 2022.

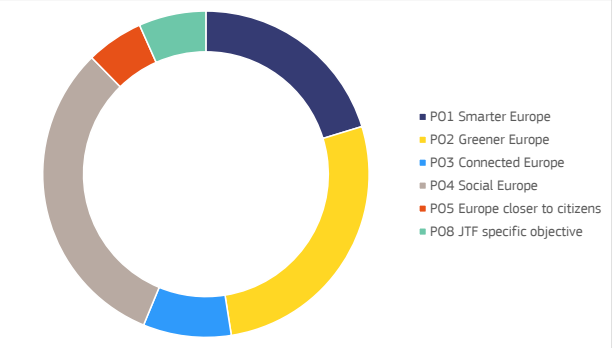
([29]) In 2014-2020, cohesion policy funds included the Cohesion Fund, the European Regional Development Fund, the European Social Fund and the Youth Employment Initiative. REACT-EU allocations are included but ETC programmes are excluded.

([30]) In 2014-2020, the total investment, including national financing, amounted to EUR 22.5 billion.

([31]) Cut-off date: 15 May 2024.

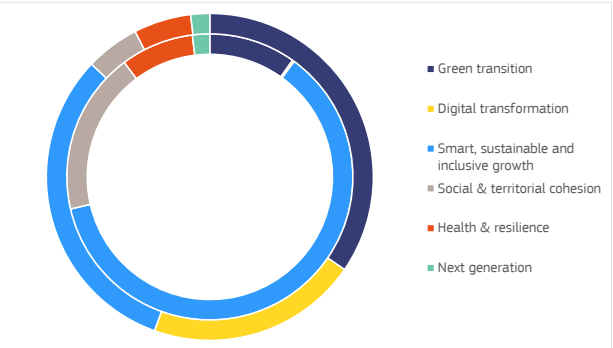
energy efficiency, the cohesion policy action 'Exoikonomo' and the RRP support energy efficiency renovations of private homes to reduce households' primary energy consumption by 30% on average. The RRP focuses on earlier renovations, while cohesion policy will focus on future ones (after 2025). Finally, in specific territories eligible for Just Transition Fund support, the RRP includes support for 'land restoration' (i.e. the appropriate preparation of land as a basis for new land use and associated economic activities), while cohesion policy finances projects 'repurposing' the territories as receptors of new economic activities. The contribution of cohesion policy and RRP funding by policy objective is illustrated by Graphs A4.1 and A4.2.

Graph A4.1: **Distribution of cohesion policy funding across policy objectives in Greece**



Source: European Commission

Graph A4.2: **Distribution of RRF funding by pillar in Greece**



(1) Each RRP measure helps achieve the aims of two of the six policy pillars of the RRF. The primary contribution is shown in the outer circle while the secondary contribution is shown in the inner circle. Each contribution represents 100% of the RRF funds. Therefore, the total contribution to all pillars displayed on this chart amounts to 200% of the RRF funds allocated to Greece.

Source: European Commission

The Technical Support Instrument (TSI) helps Greece invest in its public administration and create a better enabling environment for EU and national investment. The TSI has funded projects in Greece to design and implement growth-enhancing reforms since 2015. The support provided in 2023 included action to develop a task force against disinformation; implement the national industrial strategy; and professionalise public procurement staff. The TSI also helps Greece to increase its overall capacity to implement specific reforms and investments included in its RRP, such as implementing the building information modelling roadmap.

Greece also receives funding from several other EU instruments, including those listed in Table A4.1. For a more complete view of loans, see Table 4.2 on EU funded loans along with complementary bilateral Member States-funded loans given to Greece in the context of its past financial assistance programme and their outstanding amounts.

Table A4.1: **Support from EU instruments in Greece**

EU grants			
	Amount 2014-2020 (EUR million)		Amount 2021-2027 (EUR million)
Cohesion policy	18 267.2		20 540.3
RRF grants (1)	-		18 220.4
Public sector loan facility (grant component) (2)	-		63
Common agricultural policy (3)	23 500.0		13 478.0
EMFF/EMFAF (4)	379.7		375
Connecting Europe Facility (5)	624.4		843.6
Horizon 2020 / Horizon Europe (6)	1 723.4		1 216.8
LIFE programme (7)	94.4		39.7
EU guarantees			
	EU Guarantee (EUR million)		Volume of operations (EUR million)
European Fund for Strategic Investment 2015-2020 (8)	1 173.0		2 876.7
InvestEU 2021-2027 (9)	297.8		415.5
EU loans			
	Period	Total amount available (EUR million)	Disbursed amount (EUR million)
SURE (10)	2020-2022	6 165.0	6 165.0
RRF	2021-2026	17 728	7 290.0

(1) RRF implementation period is 2021-2026.
(2) The public sector loan facility's programming period is 2021-2025 and the amount reflects the national share in its grant component reserved until the end of the period.
(3) Common agricultural policy programming periods are 2014-2022 and 2023-2027.
(4) EMFF – European Maritime and Fisheries Fund, EMFAF – European Maritime, Fisheries and Aquaculture Fund.
(5) Data on the Connecting Europe Facility covers transport and energy and has a cut-off date of 15 May 2024.
(6) Data on Horizon Europe (2021-2027) has a cut-off date of 13 May 2024.
(7) 2021-2027 data on the LIFE programme has a cut-off date of 15 May 2024.
(8) The amount of the EU guarantee signed under the EFSI Infrastructure and Innovation Window was derived based on the signed amount of the operations and the average internal multiplier, as reported by the EIB (cut-off date is 31 December 2023).
(9) The amount of the EU guarantee and of the volume of operations signed under InvestEU includes the EU compartment as well as the Member State compartments (cut-off date is 31 December 2023).
(10) SURE - European instrument for temporary support to mitigate unemployment risks in an emergency.
Source: European Commission

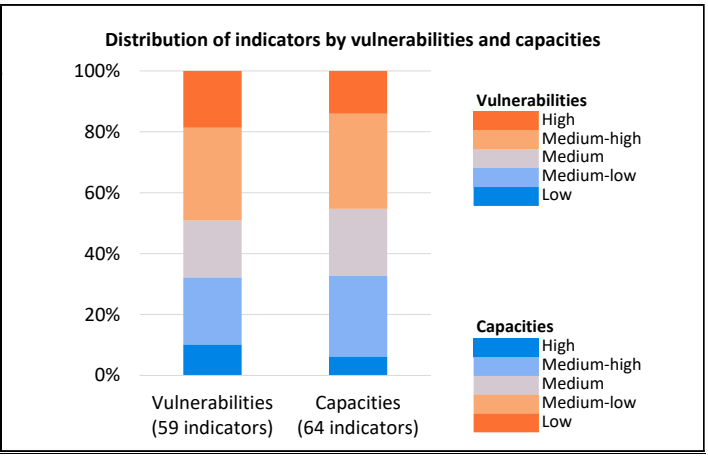
Table A4.2: **EU/ euro area loans under the 2010-2018 financial assistance programmes**

	Period	Total amount disbursed (EUR billion)	Outstanding amount (EUR billion)
Greek Loan Facility/Member State bilateral loans	2010-2011	52.9	39.5
European Financial Stability Facility	2012-2015	141.8	126
European Financial Stabilisation Mechanism	2015	7	0
European Stability Mechanism	2015-2018	61,9	59.8

Data include upfront retained amounts (prepaid margin, service fee). The cut-off date is 15 May 2024.
Source: European Commission

Table A5.1: **Resilience indices across dimensions for Greece and the EU-27**

Dimension		EL 2023 RDB	EL 2024 RDB	EU-27 2024 RDB
Overall resilience	Vulnerabilities			
	Capacities			
Social and economic	Vulnerabilities			
	Capacities			
Green	Vulnerabilities			
	Capacities			
Digital	Vulnerabilities			
	Capacities			
Geopolitical	Vulnerabilities			
	Capacities			



(1) The synthetic indices aggregate the relative resilience situation of countries across all considered indicators. For an indicator, each country's relative situation in the latest available year is compared with the collection of values of that indicator for all Member States and all years in the reference period.
Source: Resilience Dashboards - version spring 2024, data up to 2022

This Annex uses the Commission's resilience dashboards (RDB) ([32]) to show Greece's relative resilience capacities and vulnerabilities ([33]) that may be of relevance for societal, economic, digital, and green transformations, and for dealing with future shocks and geopolitical challenges. ([34])

According to the set of resilience indicators in the RDB, Greece has medium-high overall vulnerabilities and medium overall capacities. Compared to the 2023 RDB, its vulnerabilities have remained stable and above the EU average. Its resilience capacities have improved, but they remain below the EU average. This is reflected in the distribution of indicators across the different resilience categories: about half Greece's vulnerability indicators are medium-high or high, and also more than 40% of the capacity indicators are medium-low or low.

In the social and economic dimension, Greece has medium-high vulnerabilities and medium-low capacities, both of which indicate it has greater resilience challenges than the rest of the EU. Despite the stable situation compared to the 2023 RDB, many of its vulnerability indicators have changed. Among its vulnerabilities, improvements such as having fewer young people who are neither in employment nor in education or training, and the lower long-term unemployment rate, were counterbalanced by increases in the proportion of people reporting unmet needs for medical care and the lower household saving rate. On the capacity side, Greece has the highest proportion of innovative businesses in the EU.

In the green dimension, the country has medium vulnerabilities, worse than last year, and medium capacities, similar to last year. Among the most significant changes are its higher raw material consumption per capita and its lower e-waste recycling rate. Greece's resilience would improve if the country reduced water use and gradually increased insured losses from climate extremes.

In the digital dimension, both Greece's vulnerabilities and capacities have increased compared to the 2023 RDB, to medium-high and medium respectively. Higher vulnerabilities are the result, for instance, of the greater number

([32]) Https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2020-strategic-foresight-report/resilience-dashboards_en. Resilience is defined as the ability not only to withstand and cope with challenges but also to undergo transitions, in a sustainable, fair, and democratic manner. 2020 Strategic Foresight Report: *Charting the course towards a more resilient Europe* (COM(2020) 493).

([33]) Vulnerabilities describe features that can exacerbate the negative impact of crises and transitions, or obstacles that may hinder the achievement of long-term strategic goals, while capacities refer to enablers or abilities to cope with crises and structural changes and to manage transitions.

([34]) This Annex is linked to Annex 1 on SDGs, Annex 6 on the green deal, Annex 8 on the fair transition to climate neutrality, Annex 9 on resource productivity, efficiency and circularity, Annex 10 on the digital transition and Annex 14 on the European pillar of social rights.

of employees who do not telework and a slightly increased gender gap among information and communication technology (ICT) specialists. Greece's capacities have improved thanks to the increase in the use of social networks and a major improvement in e-healthcare services.

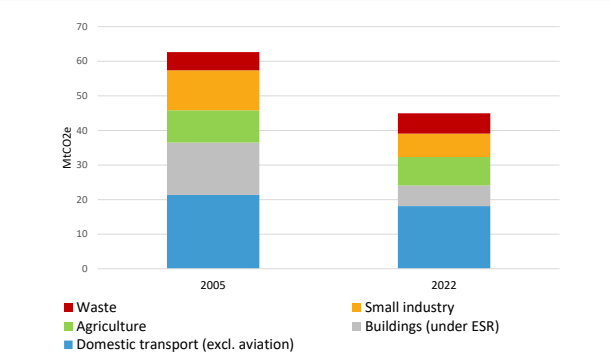
Greece's medium geopolitical vulnerabilities and capacities have remained stable compared to the last release of the RDB. A narrowing of the employment gap between EU and non-EU nationals, and a major increase in intra-EU energy trade are among the most significant improvements in its vulnerabilities, while its net international investment position and higher borrowing needs remain among its major challenges. There is room to improve its capacities, particularly by increasing the added value generated by foreign businesses and reducing its net migration rate. On the positive side, Greece has the highest rate of decline of metal footprint per capita and the biggest army staff in the EU.

Greece has made progress in the green transition, with more action needed in several areas, including managing potential losses from climate hazards, sustainable water management and the circular economy. This Annex provides a snapshot of climate, energy, and environmental aspects of the transition in Greece ([35]).

Greece's draft updated national energy and climate plan (NECP) lacks key information on investment needs and funding sources to achieve its 2030 climate and energy targets. The plan provides quantitative information on the investment needs based on a central scenario (with existing measures, WEM). It outlines some of the main sources of funding for the key policies and measures but it briefly describes the current funding programmes instead of linking funding to planned policies and measures. It lacks a consolidated overview of all budgetary information, which means it is not possible to identify any potential funding gaps ([36]).

Greece is projected to reach its 2030 effort sharing target with existing policies and measures ([37]). Greece's 2022 greenhouse gas emissions from its effort sharing sectors are expected to come in at 28.6% below 2005 levels. Current policies are projected to reduce Greece's emissions by 35.5% from 2005 levels. This would exceed Greece's effort sharing target, a 22.7% reduction, by 12.8 percentage points ([38]). Greece is therefore expected to exceed its effort sharing target with existing measures. The draft updated NECP reiterates Greece's commitment to achieve climate neutrality by 2050.

Graph A6.1: **Greenhouse gas emissions from the effort sharing sectors in Mt CO2eq, 2005-2022**



Source: European Environment Agency

There is scope for increasing Greece's target for energy efficiency in its final updated NECP ([39]). Greece's energy efficiency contribution of 18.2 Mtoe in primary energy consumption and 15.4 Mtoe in final energy consumption for 2030 set in the draft updated NECP are less ambitious than the contribution required under the Energy Efficiency Directive. Greece's renewable energy contribution set in its draft updated NECP, to reach 44% by 2030, is significantly higher than the required contribution of 39%.

Greece has yet to make the shift to sustainable transport ([40]). Passenger cars are

([35]) This Annex is complemented by Annex 7 on energy transition and competitiveness, Annex 8 on the fair transition to climate neutrality, Annex 9 on resource efficiency, circularity, and productivity, and relevant topics in other annexes to this country report.

([36]) See the Commission's (2023) assessment of the draft national energy and climate plan of Greece.

([37]) The national greenhouse gas emission reduction target is laid down in Regulation (EU) 2023/857 (the Effort Sharing Regulation). The aim is to align action in the sectors concerned with the objective to reach the EU-level economy-wide target of greenhouse gas reductions of at least 55% compared to 1990 levels. The target also applies to the sectors outside the current EU Emissions Trading System, notably buildings (heating and cooling), road transport, agriculture, waste, and small industry (known as the effort sharing sectors).

([38]) The effort sharing emissions for 2022 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Greece's draft updated NECP does not provide emissions projections for the effort sharing sectors. The information on projections of effort sharing emissions 'with existing measures' (WEM) is based on the latest data that had to be reported by 15 March 2023 under Article 18 of Regulation 2018/1999 (the Governance Regulation).

([39]) The EU target set out in the revised Renewable Energy Directive is to have 42.5% of gross final energy consumption coming from renewable energy sources by 2030, with the aspiration to reach 45%. The formula in Annex I to Directive (EU) 2023/1791 sets the indicative national contribution for Greece at 417.1 Mtoe for primary energy consumption. The Commission communicated a corrected national contribution of 14.64 Mtoe in final energy consumption for 2030 in accordance with Article 4(5) of the Energy Efficiency Directive to increase the contribution towards the Union's binding energy efficiency target. See the Commission Recommendation of 18/12/2023 Greece.

([40]) Unless otherwise indicated, data in this section refer to 2021. See European Commission, 2023, EU transport in figures, transport.ec.europa.eu.

used for 87.1% of distances travelled, and 97.7% of inland freight is transported by road, according to 2022 data. Battery electric cars account for only 0.1% of Greece's car fleet. The country has about 3 200 publicly accessible charging points, one for every six electric vehicles.

Carbon farming, sustainable forest management and replacing harvested or damaged forests have the potential to significantly increase carbon removals in Greece. Greece's land use, land-use change and forestry (LULUCF) sector has achieved stable carbon removals for over ten years. For reaching the 2030 LULUCF target, additional removals of 1 154 kt CO_2eq are yet missing ([41]). The latest projections indicate that Greece is on track to meet the target. ([42])

Greece is particularly vulnerable to wildfires and water-related climate hazards and has low levels of insurance coverage. It is both vulnerable to the impacts of extreme weather events such as floods, coastal floods, droughts and heatwaves and at risk due to a persistently high climate protection gap ([43]). Overall, between 5-20% of economic losses over the past decades were covered by insurance. Wildfires are the highest risk, with a high economic impact historically. There are also risks to water management, but work has begun to assess flood risk management plans. Putting in place the right institutional settings is crucial to climate adaptation. Greece has made progress in understanding and monitoring the effects of climate change but faces challenges in implementing adaptation strategies, notably due to insufficient human and financial resources ([44]). The creation of a climate crisis and civil protection ministry is welcome, but it has not been assigned sufficient resources to effectively implement adaptation policies.

Sustainable water management is a major environmental issue for Greece. The water exploitation index plus (WEI+), which compares water use against renewable water resources, measured 13.3% in 2019 versus EU average of 3.6%. The worst seasonal water scarcity conditions were recorded at 70.2% in Q3 of 2019 ([45]). On average between 2000 and 2020, 3.2% of land in Greece was affected by droughts, rising to 4.5% in 2022. Forests and woodlands tend to be the most damaged ecosystems. The efficient use of water resources can be measured by water productivity ([46]). In 2021, Greece's economy generated EUR 49 per cubic metre of water abstracted, among the lowest water productivity levels in the EU (EU-27 average EUR 398). Based on reporting in the second river basin management plan ([47]), 64% of all surface water bodies achieved a good ecological status and 87% achieved a high chemical status. The marine waters of Greece are not yet in a good environmental status for all the descriptors used in the Marine Strategy Framework Directive, based on the latest data reported for its marine strategy ([48]).

Greece has scope to improve nature protection. By the end of 2021, Greece had protected 35% of its land and 19.8% of its marine areas. 48% of habitats and 35% of species were in a good conservation status ([49]). According to the latest available data (2019), the Common Farmland Bird Index has fallen to 76, below the EU average. In addition, the pace of Greece's transition to a circular economy is insufficient and the country has room to improve waste management and recycling (see Annex 9).

Intensive agriculture has a major impact on ecosystems, biodiversity, air and soil quality. In Greece, organic farming accounted for 10.2% of the total utilised agricultural area in 2020 versus

([41]) National LULUCF targets of the Member States in line with Regulation (EU) 2023/839.

([42]) Projections submitted in Greece's draft updated national energy and climate plan, 2023.

([43]) On the climate protection gap, see the annotations to Table A6.1.

([44]) See the Commission's 2023 assessment and recommendation on Greece's progress on climate adaptation.

([45]) WEI+ values above 40% indicate severe stress and unsuitable freshwater use.

([46]) Measured as GDP over total fresh surface water abstracted in cubic meters.

([47]) Data from the 3rd river basin management plan are not yet available.

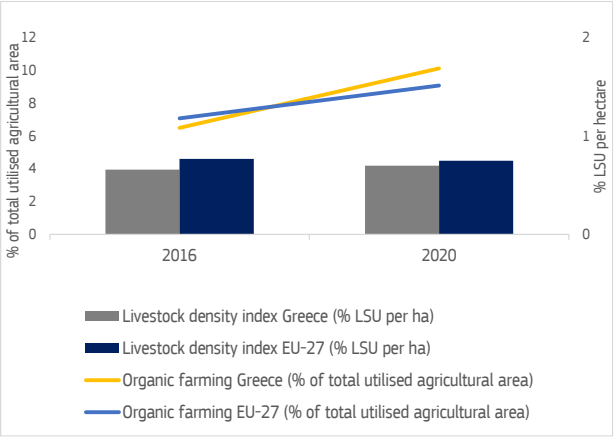
([48]) EUR-Lex – 52022XC0314(01) – EN – EUR-Lex (europa.eu) ; The next reporting on the state of the marine environment is due in October 2024. See also Greece – Marine (europa.eu).

([49]) Against the EU average of 15% and 28%.

9.1% in the EU-27 and the EU target of 25% by 2030. Food waste production remains relatively high, while at the same time the composting and digestion rates are too low. The country produced 191 kg of food waste per capita in 2020, above the EU average of 131 kg per person. Most waste was generated during household use. 33% of soil in Greece could be in an unhealthy state, according to the best available information on soil health issues at Member State level used in the impact assessment for the Soil Monitoring Law ([50]), ([51]). The loss of organic carbon affects 83% of cropland and grassland area and topsoil compaction affects 11% of land. Conservation tillage practices, which increase soil organic carbon, were used in only 14% of tillable areas in 2016 in Greece.

Greece's livestock farming sector is moving to more intensive practices. While most EU Member States lowered their livestock density indices between 2010 and 2020, it increased significantly in Greece, from 0.46% to 0.70% ([52]). However, the total number of livestock units has fallen. Intensive poultry and pig farming are the activities that put the highest burden on the environment in terms of ammonia emissions. The agricultural sector was responsible for generating 90.1% of all ammonia emissions, comparable to the EU average of 90.7%. Reducing the use of pesticides and nutrients would help reduce pollution. The latest figures on the gross nitrogen balance on agricultural land in Greece indicate an average surplus of 59 kg of nitrogen per hectare per year in 2015. 11.9% of groundwater monitoring stations indicate levels above the maximum 50 mg nitrates/l. The gross phosphorus balance was 0 kg/ha in 2015. The chemical status of water bodies is less affected by pesticide contamination than the EU average. Overall, 2.1% of monitoring sites were reported to have pesticide levels exceeding the thresholds set by the Water Framework Directive.

Graph A6.2: **Changes in livestock density and organic farming**



Livestock unit (LSU)/ha of UAA: it measures the stock of animals (cattle, sheep, goats, equidae, pigs, poultry and rabbits) converted in LSUs per hectare of UAA.
Source: Eurostat

Sustainable water management remains one of the major challenges for Greece's agriculture sector. In 2020, 16.4 of agricultural land in Greece is irrigated, one of the highest shares in the EU, and therefore agriculture has a high impact on water resources. Water abstracted for agricultural, Forestry and Fishing purposes accounted for 80.5% of the total volume abstracted in 2019.

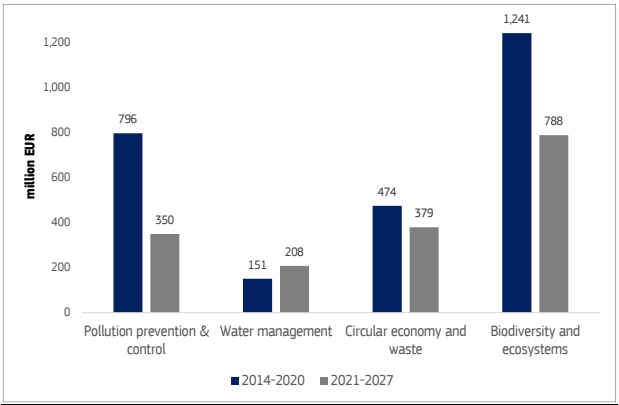
Greece would benefit from an increase in environmental investment. Over the 2014-2020 period, the environmental investment gap was estimated at EUR 2.7 billion per year, accounting for 1.5% of GDP. The gap is estimated to be decreasing over the 2021-2027 period at EUR 1.7 billion. Sufficient resources have yet to be allocated, in particular for biodiversity and ecosystem protection (a gap of EUR 788 million). Greece would also benefit from investing in sustainable water management (EUR 208 million) as well as the circular economy and in waste (EUR 379 million).

([50]) SWD 417 final of 5.7.2023 - impact assessment for the Directive of the European Parliament and of the Council on Soil Monitoring and Resilience (Soil Monitoring Law), (see. p. 10, pp. 189-190, pp. 835-845).

([51]) However, not all soil degradation processes could be quantified for all land uses. This number simply indicates an order of magnitude.

([52]) Still below the EU average of 0.75%.

Graph A6.3: **Environmental investment gaps, annual average**



The numbers are computed by the European Commission based on the latest internal reports, Eurostat, EIB and national data sources.
Source: European Commission

Table A6.1: **Indicators tracking progress on the European Green Deal from a macroeconomic perspective**

							Target	Distance	
		2005	2019	2020	2021	2022	2030	WEM	WAM
Progress to climate and energy policy targets									
Greenhouse gas emission reductions in effort sharing sectors [1]	Mt CO_{2eq}, %, pp	62,985.2	-28%	-31%	-30%	-29%	-23%	13	23
Net greenhouse gas removals from LULUCF [2]	Kt CO2eq	-3 550	-5 140	-5 203	-5 013	-5 391	-4,373	n/a	n/a
Share of energy from renewable sources (1) [3]	%	7%	20%	22%	22%	23%	39%	-	-
Energy efficiency: primary energy consumption [3]	Mtoe	30.3	22.3	19.2	20.3	20.9	17.1		
Energy efficiency: final energy consumption [3]	Mtoe	21.0	16.2	14.4	15.2	16.1	14.6		

							EU-27		Projected
		2018	2019	2020	2021	2022	2021	2022	2030
Green transition: mobility									
Greenhouse gas emissions: road transport	Mt CO2e	-	-	-	16.4	18.1	769.0	786.6	16.2
Share of zero-emission vehicles in new registrations [4]	%	0.1	0.2	0.8	2.2	2.8	9	12.1	n/a
Number of publicly accessible AC/DC charging points		-	-	277	611	982	299178	446956	n/a
Share of electrified railways	%	29.6%	32.1%	31.2%	31.3%	-	56.1%	-	n/a
Green transition: buildings									
Greenhouse gas emissions: buildings	Mt CO2e	-	-	-	6.0	6.0	537.0	486.7	4.8
Final energy consumption in buildings	2015=100	94.7%	98.4%	97.6%	99.8%	101.3%	104.0%	97.2%	
Climate adaptation									
Climate protection gap [5]	score 1-4	-	-	2.2	2.4	2.0	1.5	1.5	n/a

		2018	2019	2020	2021	2022	2020	2021	2022
State of the environment									
Water | Water exploitation index (WEI+) (1) [6]	% of renewable freshwater	11.8	13.3	-	-	-	3.6	-	-
Circular economy | Material footprint [7]	tonnes per person	13.0	12.8	11.8	11.4	13.0	14.2	14.8	14.9
Pollution | Years of life lost due to air pollution by PM2.5 [8]	per 100.000 inhabitants	1,087	883	807	918	-	545	584	-
Biodiversity | Habitats in good conservation status [9]	%	48.3					14.7		
Common farmland bird index [10]	2000=100	79.2	76.0	-	-	-	78.2	-	-
Green transition: agri-food sector									
Organic farming	% of total utilised agricultural area	9.32	10.26	10.15	-	-	9.1	-	-
Nitrates in groundwater	mg NO_3/litre	12.78	14.42	13.91	-	-	20.42	-	-
Food waste per capita	Kg per capita			191	-	-	130	131	-
Share of soil in poor health [11]	%					33			41
Soil organic matter in agricultural land [12]	Mt per ha	158	-	-	-	-	7,904	-	-

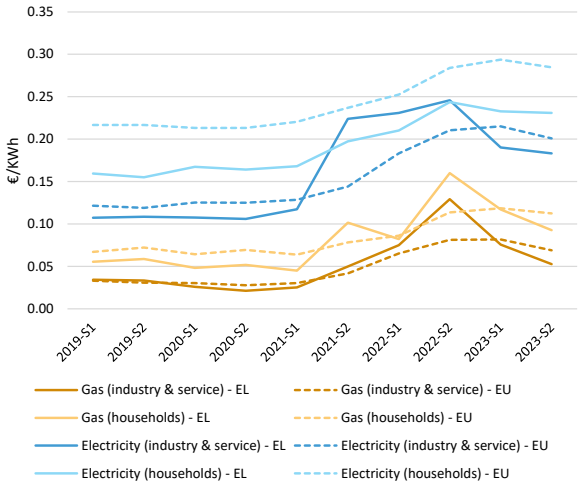
Sources: (1) Member States' emission data for 2019 and 2020 are in global warming potential (GWP) values from the 4th Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC). Member States' 2005 base year emissions under Regulation (EU) 2018/842, emissions data for 2021 and 2022, and 2030 projections are in GWP values from the 5th Assessment Report (AR5) of the IPCC. 2021 data are based on the final inventory reports, 2022 data are based on approximated inventory reports and European Environmental Agency's calculation of effort sharing emissions. The final data for 2021 and 2022 will be established after a comprehensive review in 2027. The 2030 target is in percentage change of the 2005 base year emissions. Distance to target is the gap between the 2030 target and projected effort sharing emissions with existing measures (WEM) and with additional measures (WAM), in percentage change from the 2005 base year emissions. The measures included for the 2030 emission projections reflect the state of play as reported in Member States' draft updated national energy and climate plans or, if unavailable, as reported by 15 March 2023 as per Regulation 2018/1999. (2) Net removals are expressed in negative figures, net emissions in positive figures. Reported data are from the 2024 greenhouse gas inventory submission. 2030 value of net greenhouse gas removals as in Regulation (EU) 2023/839 – Annex IIa. (3) The 2030 national objectives for renewable energy and energy efficiency are indicative national contributions, in line with Regulation (EU) 2018/1999 (the Governance Regulation), the EU-level 2030 renewable energy target set out in Directive EU/2018/2001 amended by Directive EU/2023/2413 (the revised Renewable Energy Directive) – 42.5% of gross final energy consumption with the aspiration to reach 45% –, and the formula in Annex I to Directive (EU) 2023/1791 (the Energy Efficiency Directive). (4) Passenger battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV). (5) The climate protection gap refers to the share of non-insured economic losses caused by climate-related disasters, based on modelling of the risk from floods, wildfires, windstorms, and the insurance penetration rate. Scale: 0 (no protection gap) –4 (very high gap) (European Insurance and Occupational Pensions Authority, 2022). (6) Total water consumption in renewable freshwater resources available for a territory and period. (7) Material extractions for consumption and investment. (8) Years of potential life lost through premature death due to exposure to particulate matter with a diameter of less than 2.5 micrometres. (9) Share of habitats in good conservation status according to the records submitted under Art. 17 of the Habitats Directive (Directive 92/43/EEC) for 2013-2018. (10) Multi-species index measuring changes in population abundances of farmland bird species. (11) Source: annex 12 of the Commission's proposal for a soil monitoring law, SWD (2023) 417 final. (12) Estimates of organic carbon content in arable land.

This Annex ([53]) sets out Greece's progress and challenges in accelerating the net-zero energy transition while bolstering the EU's competitiveness in the clean energy sector ([54]). It considers measures and targets put forward in the draft updated National Energy and Climate Plans (NECP) for 2030 ([55]).

Greece has significantly accelerated the installation of renewable energy capacity, implemented a series of energy efficiency measures supported by EU funds and has taken steps to enhance its security of supply and that of the broader region. However, important challenges remain including in grid capacity.

Aligning with the prevailing trends witnessed across the EU, retail energy prices in Greece exhibited a noteworthy decline in 2023, dipping below the levels recorded end of 2022. Average household gas prices in Greece were significantly reduced by 21% in the second half of 2023, compared to the first semester, remaining below the EU average. Average household electricity prices remained stable throughout the second semester of 2023, around 19% below the EU average, following a 5% decline during the first half of the year. For the industrial and services sector, both gas and electricity average prices have been decreasing since their peak in December 2022. In the second half of 2023, industrial consumers experienced a 31% decrease for gas and a 4% decrease for electricity prices. In 2023, industry/service electricity prices in Greece remained below the EU average.

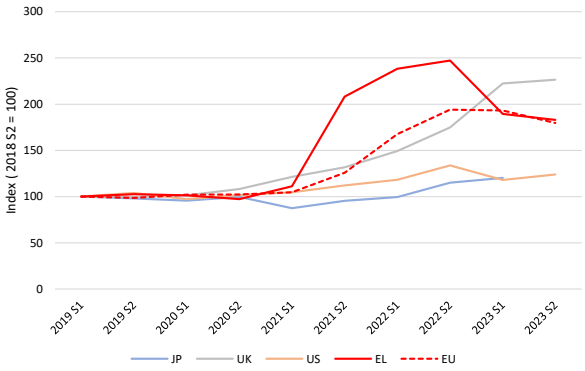
Graph A7.1: **Greece´s energy retail prices for households and industry & industry**



(1) For industry, consumption bands are I3 for gas and IC for electricity, which refer to medium-sized consumers and provide an insight into affordability
(2) For households, the consumption bands are D2 for gas and DC for electricity
(3) Industry prices are shown without VAT and other recoverable taxes/levies/fees as non-household consumers are usually able to recover VAT and some other taxes
Source: Eurostat

In relative terms, electricity prices for non-household consumers have increased significantly compared to the US and Japan, thus potentially affecting the international competitiveness of energy-intensive industries in Greece.

Graph A7.2: **Trends in electricity prices for non-household consumers (EU and foreign partners)**



(1) For Eurostat data (EU and EL), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness
(2) JP = Japan
Source: Eurostat, IEA

([53]) It is complemented by Annex 6 as the European Green Deal focuses on the clean energy transition and by Annex 8 on the actions taken to protect the most vulnerable ones complementing ongoing efforts under the European Green Deal, REPowerEU and European Green Deal Industrial Plan.

([54]) In line with the Green Deal Industrial Plan and the Net-Zero Industry Act

([55]) Greece submitted its draft updated NECP in November 2023, Commission issued an assessment and country specific recommendations on 18 December 2023. Commission Recommendation, Assessment (SWD) and Factsheet of the draft updated National Energy and Climate Plan of Greece - European Commission (europa.eu)

Most of the direct energy support measures to final consumers implemented since the outset of the energy crisis were not targeted at the most vulnerable households or firms. The measures continued in 2023, even though were trimmed as electricity prices fell, but many households and businesses still found it challenging to pay their bills amid persistent inflation. Worth mentioning that in 2023 an emergency heating allowance was announced, to help up to 1.2 million energy-vulnerable consumers, along with a special electricity tariff for households with four or more children, targeting up to 30 000 families.

Consumer empowerment in the electricity and gas markets is moving in the right direction, but the deployment of smart meters is still lagging. In November 2023, the Ministry of Environment and Energy announced a series of measures to protect retail customers in view of the suspension of general subsidies and to boost competition in the retail market, including a new model for electricity tariffs for low voltages. Moreover, the national regulator RAEWW intends to establish an online price comparison tool ([56]) and an Energy Ombudsman, to resolve disputes and spare consumers from time-consuming and costly legal action. Regarding smart meters, their deployment is promoted through the Greek Recovery and Resilience Plan, but their penetration rate remains particularly low. Up to now only 420 000 electricity smart meters have been installed at low voltage ([57]), but Greece is among the countries with the lowest adoption rate, falling significantly short of the EU target of at least 80%.

Greece has taken significant steps to strengthen its security of supply and diversify its natural gas sources. Gas has been playing an increasing role in Greece's energy system over the last years covering 41% of electricity generation, 22% of industry energy demand and 10% of space heating demand ([58]). Between August 2022 and December 2023 Greece managed to reduce its gas demand by 16% in comparison with the average of the previous five years.

Greece significantly boosted its natural gas exports with the opening of the IGB pipeline to Bulgaria. The planned expansion of the IGB pipeline between Greece and Bulgaria from 3 to 5 bcm/year will also increase security of supply for the region. In the context of the Central and SouthEastern Europe energy connectivity (CESEC) high level group, Greece has signed a Memorandum of Understanding with Bulgaria and Romania focusing on cooperation to tap their common renewable energy potential. Moreover, on top of the already existing LNG infrastructure (Revythousa), the Alexandroupolis FSRU (floating storage and regasification unit) will be commercially operational in 2024, positioning Greece at the epicentre of the energy diversification efforts of the broader region.

Greece doesn't have storage facilities apart from its LNG terminals and FSRUs. However, under the gas storage regulation, it has stored 100 mcm of gas, covering 2% of its annual demand, in Italy (via reverse flow in the TAP pipeline) and Bulgaria. Greece also dedicates a small share of its LNG storage capacity to support emergency operations by gas-fired power plants.

The development of a CCS facility in South Kavala and the construction of a H2 pipeline between Greece and Bulgaria are labelled as a Projects of Common Interest.

As reiterated in the draft updated NECP, Greece intends to phase out lignite from its electricity production by 2028. The overall 2028 target is also included in the first ever Greek Climate Law ([59]). Compared to the territorial just transition plans (TJTPs) submitted in 2021, the draft updated NECP extends the phasing out of three lignite units from 2023 to 2025.

Installed renewable capacity surged by 15.5% in 2023, compared to 2022, driven by a significant increase in solar. Total renewable energy capacity in Greece in 2023 stood at 15 805 MW. As regards the acceleration of solar deployment, the total installed capacity in 2023 was 7 430 MW, almost all of which is PVs. The

([56]) www.energycost.gr

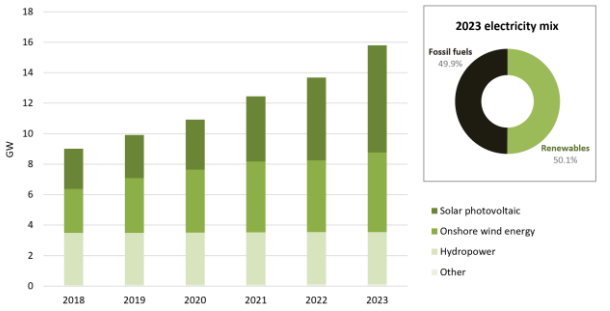
([57]) As communicated by the national authorities to the Commission services

([58]) EU energy statistical pocketbook and country datasheets - European Commission (europa.eu)

([59]) Greek Climate Law 4936/2022, article 11

total wind capacity in Greece for 2023 was 5 220 MW (an increase of 11%), all of which was onshore wind ([60]).

Graph A7.3: **Greece's installed renewable capacity (left) and electricity generation mix (right)**



(1) "Other" includes renewable municipal waste, solid biofuels, liquid biofuels, and biogas.
Source: IRENA, Ember

Greece made significant steps in implementing reforms to accelerate the deployment of renewables but needs to continue these efforts in order to achieve its ambitious targets. In its REPowerEU chapter, Greece included the obligation to further simplify decision-making for collective self-consumption, to create a self-consumer registry and a contact point for energy communities. Moreover, it also optimised its land and sea space usage for the development of renewables, under which the first Offshore Wind Organized Development Areas were identified.

Regarding Greece's share of renewables in heating and cooling (30.61% in 2022 - mainly heat pumps and solar thermal systems) the target for 2030 is 46%, which will be met mainly by heat pumps. The target stated in the draft NECP and the measures to achieve it appear rather unclear as it is not described how Greece intends to increase renewable energy in heating and cooling, even though usage of heat pumps is expected to grow rapidly.

Greece may face challenges regarding its grid capacity to meet electricity demand while rapidly integrating renewable energy sources and other technologies, as well as increasing the capacity of the national system. The draft updated NECP estimates that electricity generation from renewables in 2030 will reach 29 GW, based on the investment plan for developing the transmission system. It is worth mentioning the project to interconnect the autonomous electricity systems of the Cyclades islands to the mainland grid and the Ariadne project (Crete-Attica), with a completion date planned for 2024. Moreover, in its REPowerEU Chapter, Greece included a reform on the grid capacity increase. With respect to cross-border interconnections, a second overhead line of 400 Kv between Greece and Bulgaria was commissioned in 2023.

Energy efficiency gains have slowed in Greece, although there is still untapped potential in energy efficiency. In 2022, Greece had a primary energy consumption of 20.9 Mtoe, a 2.8% increase compared to 2021 and a 21.2% decrease compared to 2012. It had a final energy consumption of 16.1 Mtoe, a 6.2% increase compared to 2021 and a 5.5% decrease compared to 2012. The best results came from the industry sector, which nevertheless increased its final energy consumption by 0.1%, and the worst from the transport sector which increased its final energy consumption by 12.8%.

Greece has implemented a series of energy efficiency measures with the support of several EU funds. However, most of the schemes are addressed to buildings and schemes for industry are rather limited. Support under Greece's recovery and resilience plan has been scaled up in the framework of the REPowerEU Chapter, notably by upscaling investment in residential and services buildings. The revised plan supports the green transition through investment to increase energy efficiency for more than 116 500 residences, including energy-poor households. The key enabling measures to increase energy efficiency in businesses is the promotion of energy audits and energy management systems.

Most of the schemes on energy efficiency are still grant-based and the use of financial instruments is still very limited. In terms of existing funding schemes addressing mobilisation of investments in energy efficiency, Greece mainly relies on grant-based funding schemes – like the "Exoikonomo" programme that targets residential buildings and residential units. However, it has

([60]) Figures from IRENA report Renewable Capacity Statistics 2024. The data might differ from the Eurostat data because a different methodology is used to calculate capacity in AC and DC

included in its Recovery and Resilience Plan a measure to lunch non-grant financial instruments for energy efficiency and additionally the Loan Facility is expected to leverage significant investments by the private sector.

Greece needs to step up its efforts in the residential sector to achieve a meaningful contribution to the 2030 reduction target for energy consumption by buildings. As per its most recent Long Term Renovation Strategy, Greece intends to reduce building energy consumption by 8% in 2030 compared to 2015. However, between 2015 and 2022, final energy consumption in the residential sector declined only by 1% ([61]).

Greece is carrying out a number of checks on products covered by eco-design and energy labelling, though they may be too low with respect to the size of its market. This generates concerns with respect to the level playing field among economic operators and uncertainty as to the compliance levels of the products concerned, and therefore possible missed energy and CO2 savings.

Greece expects to have a capacity in electrolysers of 300 MW in 2030 ([62]). Only two small research units and a small commercial electrolytic hydrogen production plant have been built so far. Some hydrogen production projects and pilots that receive funding from EU programmes have been made public. The Greek REPowerEU Chapter includes measures to facilitate the production of renewable hydrogen.

Greece's manufacturing landscape for clean technologies has historically leaned on imports to drive its renewable energy initiatives. However, recent years have witnessed the emergence of noteworthy initiatives notably in the wind rotor and battery manufacturing supply chain.

In the wind energy domain, although critical components such as nacelles, blades and control systems are imported, local production exists for transformers, electrical switchgear and towers. Particularly noteworthy is a medium-sized steel manufacturing company producing specialised components essential for the construction of supporting structures for floating offshore wind turbines. Also worth mentioning is a vertical production plant manufacturing the EW16 wind rotor and a wind tower manufacturing plant with a maximum capacity of 450 sections annually. Recent market dynamics have taken a toll on established manufacturers of photovoltaic (PV) frames, leading to closures amid stiff competition from Chinese counterparts. In contrast, a Greek company specialising in the development, production and distribution of cutting-edge lead-acid and lithium-ion batteries, along with energy storage systems and chargers, is currently the third largest manufacturer of batteries in the global motive power battery industry, with about EUR 1 billion of consolidated annual sales and a workforce of approximately 3 100 people.

Despite some positive indicators in Greece's innovation landscape, the country continues to fall behind several other Member States. Recent studies tracking research and innovation (R&I) have shown encouraging trends but Greece's private expenditure on research and development (R&D) related to Energy Union priorities in 2019 stood at 0.018% of GDP, notably lower than the EU average. A significant portion of this expenditure (around 68%) was directed towards renewable energy initiatives. While venture capital investment has displayed positive growth in recent years, the figures remain somewhat modest. In 2021, approximately EUR 4.5 million was invested in climate technology firms within the energy sector, constituting about 1.5% of total VC investments in Greece (EU average is 10%).

([61]) Final energy consumption in households from Eurostat, climate-corrected by the Joint Research Centre, with reference period 2005-2022

([62]) Draft updated National Energy and Climate Plan

Table A7.1: **Key Energy Indicators**

		Greece				EU			
		2019	2020	2021	2022	2019	2020	2021	2022
ENERGY DEPENDNCE	**Import Dependency [%]**	**74.1%**	**81.4%**	**73.8%**	**79.6%**	**60.5%**	**57.5%**	**55.5%**	**62.5%**
	of Solid fossil fuels	6.4%	10.2%	9.6%	-0.7%	43.3%	35.8%	37.3%	45.8%
	of Oil and petroleum products	95.7%	106.4%	93.1%	101.8%	96.7%	96.8%	91.7%	97.7%
	of Natural Gas	99.0%	100.7%	99.4%	101.6%	89.7%	83.6%	83.6%	97.6%
	Dependency from Russian Fossil Fuels [%]								
	of Natural Gas	32.3%	39.0%	40.5%	17.5%	39.7%	41.3%	41.1%	21.0%
	of Crude Oil	21.9%	28.2%	22.9%	18.7%	28.8%	26.7%	26.4%	19.5%
	of Hard Coal	88.7%	87.0%	95.9%	11.6%	43.5%	49.1%	47.4%	21.5%

		2016	2017	2018	2019	2020	2021	2022
DIVERSIFICATION OF GAS SUPPLIES	**Gas Consumption (in bcm)**	**4.1**	**4.9**	**4.8**	**5.2**	**5.8**	**6.4**	**5.2**
	Gas Consumption year-on-year change [%]	29.4%	21.3%	-1.9%	8.3%	11.5%	10.4%	-19.6%
	Gas Imports - by type (in bcm)	**4.1**	**5.0**	**4.9**	**5.2**	**5.9**	**6.4**	**5.7**
	Gas imports - pipeline	3.3	3.5	3.9	2.4	2.9	4.2	2.2
	Gas imports - LNG	0.8	1.5	1.0	2.8	3.0	2.2	3.6
	Gas Imports - by main source supplier (in bcm) (1)							
	United States	-	-	0.1	0.2	1.5	1.1	1.9
	Russia	2.6	2.9	3.2	1.7	2.3	2.6	1.0
	Azerbaijan	-	-	-	-	0.0	1.2	1.1
	Egypt	-	-	-	0.3	0.1	0.1	0.4

		2019	2020	2021	2022	2023
	LNG Terminals - storage capacity m3 LNG					
	Number of LNG Terminals	1	1	1	1	1
	LNG Storage capacity (m3 LNG)	225,000	225,000	225,000	225,000	225,000
	Underground Storage					
	Number of storage facilities	0	0	0	0	0
	Technical Capacity (bcm)	0.0	0.0	0.0	0.0	0.0

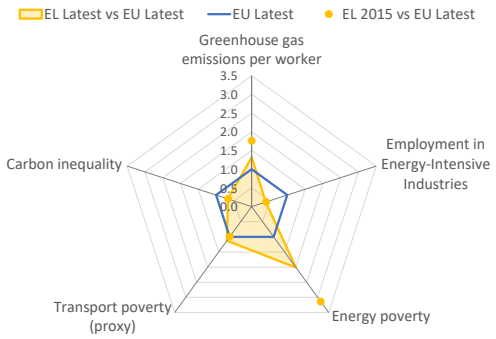
		2016	2017	2018	2019	2020	2021	2022	2023
ELECTRICITY/ENERGY	**Gross Electricity Production (GWh) (2)**	**54,439**	**55,266**	**53,263**	**48,626**	**48,252**	**54,715**	**52,671**	-
	Combustible Fuels	39,798	41,698	37,412	32,880	31,055	33,020	30,648	-
	Nuclear	0	0	0	0	0	0	0	-
	Hydro	5,565	4,040	5,760	4,051	3,440	5,961	4,000	-
	Wind	5,146	5,537	6,300	7,266	9,310	10,483	10,883	-
	Solar	3,930	3,991	3,791	4,429	4,447	5,251	7,140	-
	Geothermal	0	0	0	0	0	0	0	-
	Other Sources	0	-0	0	0	-0	0	0	-
	Gross Electricity Production [%]								
	Combustible Fuels	73.1%	75.4%	70.2%	67.6%	64.4%	60.3%	58.2%	-
	Nuclear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-
	Hydro	10.2%	7.3%	10.8%	8.3%	7.1%	10.9%	7.6%	-
	Wind	9.5%	10.0%	11.8%	14.9%	19.3%	19.2%	20.7%	-
	Solar	7.2%	7.2%	7.1%	9.1%	9.2%	9.6%	13.6%	-
	Geothermal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-
	Other Sources	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-
	Net Imports of Electricity (GWh)	**8,796**	**6,237**	**6,278**	**9,944**	**8,864**	**3,684**	**3,447**	-
	As a % of electricity available for final consumption	16.0%	11.2%	12.3%	19.2%	18.1%	7.2%	7.0%	-
	Electricity Interconnection [%]	-	**10.6%**	**9.7%**	**9.8%**	**9.9%**	**6.3%**	**6.3%**	**5.6%**
	Share of renewable energy consumption - by sector [%]								
	Electricity	22.7%	24.5%	26.0%	31.3%	35.9%	35.9%	42.4%	-
	Heating/cooling	25.4%	28.2%	30.1%	30.0%	31.9%	31.1%	30.6%	-
	Transport	1.6%	4.0%	4.1%	4.0%	5.3%	4.4%	4.1%	-
	Overall	15.4%	17.3%	18.0%	19.6%	21.7%	22.0%	22.7%	-

		2019	2020	2021	2022	2023
CLEAN ENERGY	**VC investments in climate tech start-ups and scale-ups (EUR Mln)**	**1.05**	**0.65**	**0.51**	**11.00**	**0.70**
	as a % of total VC investment (3) in Greece start-ups and scale-ups	0.6%	0.1%	0.2%	2.7%	0.5%
	Research & Innovation spending in Energy Union R&i priorites					
	Public R&I (EUR mln)	-	50.2	48.8	-	-
	Public R&I (% GDP)	-	0.030%	0.027%	-	-
	Private R&I (EUR mln)	1.5	8.0	-	-	-
	Private R&I (% GDP)	0.001%	0.005%	-	-	-

(1) The ranking of the main suppliers is based on the latest available figures (for 2022)
(2) Venture Capital investment includes Venture Capital deals (all stages), Small M&A deals and Private Equity (PE) growth deals (for companies that have previously been part of the portfolio of a VC investment firm or have received Angel or Seed funding).
Source: Eurostat, Gas Infrastructure Europe, JRC elaboration based on PitchBook data (03/2024), JRC SETIS (2024)

This Annex monitors Greece's progress in ensuring a fair transition towards climate neutrality and environmental sustainability, particularly for workers and households in vulnerable situations. Greece's green economy is expanding. Between 2015 and 2021, total jobs in the environmental goods and services sector grew by 30.1% (to around 83 400) (EU: 18.2%), reaching 2.1% of total employment (EU: 2.7%). However, further efforts are needed for this trend to continue. Also, between 2015 and 2022, the greenhouse gas emission intensity of Greece's workforce (see Graph A8.1 and Table A8.1) declined from 25.1 to 18.9 tonnes per worker. Although this is still above the EU average (14.3 tonnes per worker in 2022) ([63]), it indicates a positive trend in the green transition. In line with the Council Recommendation of 2022 on ensuring a fair transition towards climate neutrality ([64]), providing skills relevant for the green transition will contribute to the effective implementation of REPowerEU plan. Greece's recovery and resilience plan (RRP) outlines crucial reforms and investment for a fair green transition, including for upskilling and reskilling measures, complementing the territorial just transition plans and actions by the European Social Fund Plus (ESF+).

Graph A8.1: **Fair transition challenges in Greece**



Source: Eurostat, EU Labour Force Survey, EMPL-JRC GD-AMEDI/AMEDI+ and DISCO(H) projects (see Table A8.1).

While Greece's green sector is growing fast, targeted support for the sectors most affected by the green transition is needed. In 2023, employment in Greece's energy-intensive industries ([65]) comprised 1.4% of total employment (3.5% in the EU), although employment in mining and quarrying has risen by 9.6% since 2015 (to around 11 400 workers in 2023). The job vacancy rate in construction (see Graph A8.2), a key sector for the green transition, is lower than the EU average (2.6% vs 3.6% in EU in 2023). This is in line with the perception of small and medium-sized enterprises (SMEs) in the sector, where 89% reported that skills shortages are holding them back in general business activities ([66]). According to the European Labour Authority (ELA) ([67]), labour shortages were reported in 2023 for a number of occupations that required specific skills or knowledge for the green transition ([68]), plumbers and pipe fitters, air conditioning and refrigeration mechanics, and building construction labourers. Following extensive changes to the labour market, there is a need to provide targeted employment and training support in line with the transition plans and labour market needs. In this context, the Just Transition programme for Greece (worth EUR 1.63 billion) will allocate 20.4% (EUR 280.5 million) of its funding to upskilling and reskilling workers in regions most affected by the transition, combined with an improved offer of training at national level, including in-work training envisaged under the ESF+ and in the RRP. With funds from the Recovery and Resilience Facility, the public employment services are currently implementing training programmes in digital and green skills for about 150 000 unemployed people.

Upskilling and reskilling are key to supporting jobs in transforming sectors. In Greece, 43% of SMEs report that skills required for greening business activities are becoming more important (EU: 42%) ([66]). If Greece matches its

([63]) Workforce-related calculations are based on the EU Labour Force Survey. Note, in the 2023 country report for Greece, such indicators were calculated based on employment statistics in the national accounts. This may result in limited comparability across the two reports.

([64]) Council Recommendation of 16 June 2022 (2022/C 243/04) covers employment, skills, tax-benefit and social protection systems, essential services and housing.

([65]) * Mining and quarrying (NACE B), chemicals (C20), minerals (C23), metals (C24) and automotive (C29).

([66]) Eurobarometer on skills shortages, recruitment, and retention strategies in small and medium-sized enterprises.

([67]) Based on the European Labour Authority 2024 EURES Report on labour shortages and surpluses 2023, i.e., data submitted by the EURES National Coordination Offices

([68]) Skills and knowledge requirements are based on the European Skills Competences and Occupations (ESCO) taxonomy on skills for the green transition.

Table A8.1: **Key indicators for a fair transition in Greece**

Indicator	Description	EL 2015	EL	EU
GHG per worker	Greenhouse gas emissions per worker – CO_2 equivalent tonnes	25.1	18.9 (2022)	14.3 (2022)
Employment EII	Employment share in energy-intensive industries, including mining and quarrying (NACE B), chemicals (C20), minerals (C23), metals (C24) and automotive (C29)	1.4%	1.4% (2023)	3.5% (2023)
Energy poverty	Share of the total population living in a household unable to keep its home adequately warm	29.2%	18.7% (2022)	9.3% (2022)
Transport poverty (proxy)	Estimated share of the AROP population that spends over 6% of expenditure on fuels for personal transport	37.0%	41.9% (2023)	37.1% (2023)
Carbon inequality	Ratio between the consumption footprint of the top 20% vs bottom 20% of the income distribution	1.8	1.8 (2021)	2.7 (2021)

Source: Eurostat (env_ac_ainah_r2, lfsa_egan2d, ilc_mdes01), EU Labour Force Survey (break in time series in 2021), EMPL-JRC GD-AMEDI/AMEDI+ and DISCO(H) projects.

projected contribution to the EU's 2030 renewable energy target, between 3 000 and 5 180 additional skilled workers will be needed for the deployment of wind and solar energy, which may require an investment in skills of EUR 19.3-24.2 million ([69]). In response to this, 6.2% of the ESF+ funding for Greece (EUR 344.6 million) will help promote green skills and jobs, as well as create jobs for the workers affected by the green transition.

Protecting people from energy poverty continues to be a challenge in Greece. The share of the population unable to keep their homes adequately warm decreased from 29.2% in 2015 to 19.2% in 2023 but is still double the EU average (9.3% in 2022) ([70]). Furthermore, the indicator increased by 0.5 percentage points between 2022 and 2023 on the back of energy price increases due to supply constraints caused by the COVID-19 pandemic and Russia's war of aggression against Ukraine, despite the emergency measures implemented in Greece. In particular, 39.8% of the population at risk of poverty (AROP) in 2023 (EU: 20.1% in 2022) were unable to keep their homes adequately warm. On the other hand, in January 2023, 41.9% of the population at risk of poverty spent a considerable proportion of their budget (more than 6%) on private transport fuels (EU: 37.1%) ([71]). Greece adopted an Action Plan for Combatting Energy Poverty, aiming to cut energy poverty by 50% in 2025 and 75% in 2030, compared to 2016.

Air pollution remains a critical issue in Greece, leading to environmental inequalities. In 2021, the consumption footprint for 20% of the population with the highest income was 1.8 times higher than the footprint of the poorest 20% ([72]) (EU: 1.8). For both groups, the consumption footprint is highest for food and housing. The average levels of air pollution in 2021 stood above the EU average (15.9 vs 11.4 µg/m3 PM2.5), with 99% of the population living in regions exposed to critical levels of air pollution ([73]). This has led to a significant impact on health, affecting vulnerable groups in particular, and around 10 000 premature deaths annually ([74]).

Greece is progressing towards ensuring a fair transition to climate neutrality in the context of the Council Recommendation of 2022, with more targeted actions still possible. Efforts were made to promote jobs in the green economy especially by strengthening the acquisition of skills relevant for the green transition. The new governance framework for active labour market policies, including in the regions most affected by the green transition, has yet to bring the expected results. The development of up-to-date labour market and skills intelligence and foresight through the national Labour Market Needs Diagnostics Mechanism will help identify and forecast occupation-specific and transversal skills needs. There is scope for providing more targeted employment support based on individual and labour market needs in line with the transition plans. At the same time, tax reliefs and discounts

([69]) EMPL-JRC AMEDI+ project.

([70]) Energy poverty is a multi-dimensional concept. The indicator used focuses on an outcome of energy poverty. Further indicators are available at the Energy Poverty Advisory Hub.

([71]) Affordability of private transport fuels is one key dimension of transport poverty. The indicator has been developed in the context of the EMPL-JRC GD-AMEDI/AMEDI+ projects. Methodology explained in Economic and distributional effects of higher energy prices on households in the EU.

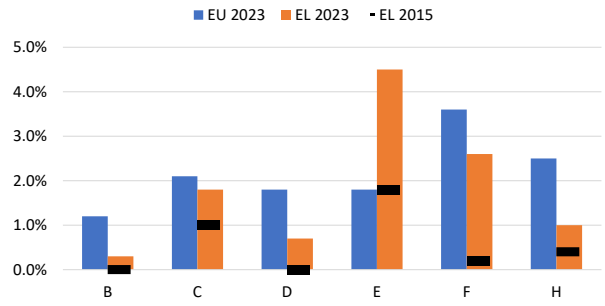
([72]) Developed in the context of the EMPL-JRC DISCO(H) project. Methodology explained in Joint Research Centre, 2024. Carbon and environmental footprint inequality of household consumption in the EU. JRC137520. The EU average refers to EU27 without Italy (household income data not available for IT in the HBS).

([73]) Two times higher than the recommendations in the WHO Air Quality Guidelines (annual exposure of 5µg/m^3).

([74]) EEA- Air Quality Health Risk Assessment

in expenses were introduced in 2023 for SMEs, which are helping to meet climate and environmental targets ([75]).

Graph A8.2: **Job vacancy rate in transforming sectors and mining and quarrying**



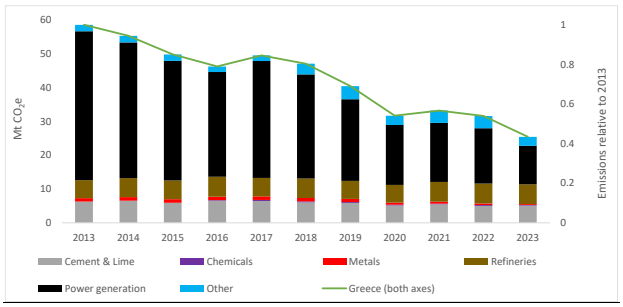
B - Mining and quarrying
C - Manufacturing
D - Electricity, gas, steam and air conditioning supply
E - Water supply; sewerage, waste management and remediation activities
F - Construction
H - Transportation and storage
Source: Eurostat jvs_a_rate_r2.

([75]) Based on the monitoring review of the Council Recommendation on ensuring a fair transition towards climate neutrality, which took place in October 2023.

The green transition of industry and the built environment, in particular decarbonisation, resource efficiency and circularity, is essential to boost Greece's competitiveness ([76]). In this regard, priorities for Greece are waste management and the use of circular materials in industry and construction.

The pace of Greece's circular economy transition is insufficient to achieve the Circular Economy Action Plan goals, due to structural issues in waste management. The material footprint increased from 12.99 to 13.05 tonnes per capita between 2018 and 2022, staying below the EU average. Total waste production per capita was well below the EU average and further decreased between 2016 and 2020, reaching 2.7 tonnes per capita. There is still room to make better use of the potential of the circular economy transition to drive the decarbonisation of Greece's industry.

Graph A9.1: **ETS emissions by sector since 2013**



Source: European Commission

In Greece, greenhouse gas emissions covered by the EU emissions trading system (ETS) have been on a strong downward trend since 2019 ([77]) and have reduced by 57% since 2013, mostly thanks to the power generation sector. Emissions decreased between 2013 and 2022; . However, in the industry sectors, greenhouse gas emissions have only decreased by 14% since 2019, after having risen by 12% between 2013 and 2019. In 2023, Greece's ETS installations emitted 37% less greenhouse gases than in 2019 altogether. In 2023, 45% of Greece's ETS emissions came from power generation. Of the total emissions from all industry sectors, cement and lime production accounted for 36%, refineries for 42%, other industries for 19%, and chemicals and the metals industry for up to 2% each.

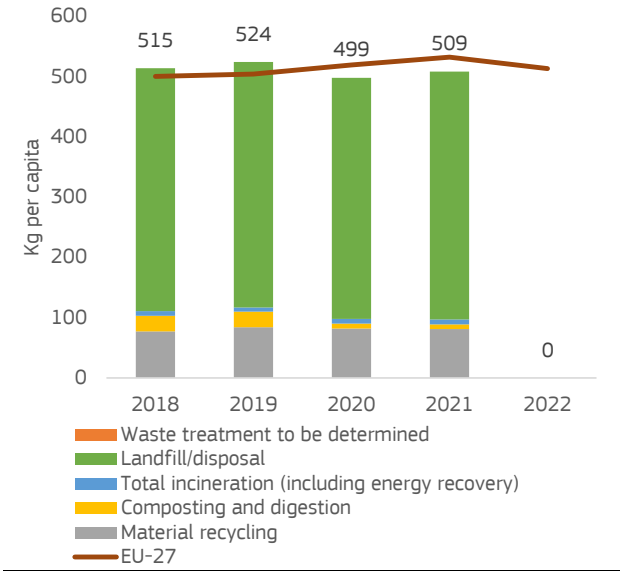
Although there are some positive trends, there is still room for improving Greece's industrial efficiency. The secondary material use rate has steadily increased in the last few years, with a peak in 2020, reaching 3.1% in 2022. However, Greece is still far from the EU average of 11.5%. Promisingly, the gap with EU average resource productivity narrowed, reaching 2.03 purchasing power standards per kilogram in 2022 versus an EU average of 2.45. Furthermore, Greece depended on imports for 39.2% of materials used in 2022, compared with an EU average of 22.4%, making the country comparatively more vulnerable to supply chain disruptions. Water abstraction for manufacturing purposes accounted for 1.8% of total water abstracted in 2018. The 2022 EcoInnovation Scoreboard placed Greece in the 'average performers group', with a score of 101.6. As of September 2023, Greece totalled 20 awarded EU Ecolabel licences and 4 614 products with the EU Ecolabel, showing a low take-up of licences. While the number of products has steadily increased over the last few years, the number of licences has remained approximately stable, after dropping from 32 to 21 in 2019.

Despite the progress made in waste management in the past decade, there are still major structural problems to solve. Only 21% of municipal waste was recycled in 2019 and Greece is considered at risk of missing the recycling targets for 2020 and onwards. The recycling rate of plastic packaging stood at 37.6% in 2019, below the EU average of 41.1%. Greece is performing better in e-waste recycling: 80.9% of electrical and electronic equipment was recycled in 2021, almost in line with the EU average of 81.1%. In addition, the number of illegal landfills has been significantly reduced. However, the remaining landfills are still a major challenge and Greece would benefit from building new facilities. Furthermore, innovation in waste treatment technologies has been slow, which is illustrated by the fact that just 1 new patent on waste recycling was registered in 2020.

([76]) See also Annexes 6, 7 and 12.

([77]) This analysis excludes air travel. For more details and the data sources, see Weitzel, M; van der Vorst, C. (2024), Uneven progress in reducing emissions in the EU ETS, JRC Science for policy brief, JRC138215, Joint Research Centre.

Graph A9.2: **Treatment of municipal waste**



Source: Eurostat

There is still room to improve Greece's resource efficiency in the built environment system. In 2022, Greece's building permits index – based on useful floor area – stood at 238.8, showing a significant increase in construction activities compared to 2015 ([78]). Greece's residential and non-residential floor areas per capita have increased over the last few years but were still below the EU average in 2020 ([79]). Furthermore, in 2020, Greece submitted a long-term strategy for energy renovation in the building sector. It aims to achieve decarbonisation of the building stock by 2050, specifying that older buildings must undergo major energy upgrading. The Greek national energy and climate plan aims to achieve energy upgrading of 12%-15% of buildings and/or building units between 2021 and 2030 through targeted policy measures. The Greek RRP contains dedicated investments to improve the energy efficiency of residential buildings and provide incentives to economically challenged households to improve their energy performance (Exikonomo).

Greece has successfully improved its construction and demolition waste management systems, but waste generation keeps increasing. Waste generated from construction and demolition activities per capita doubled between 2010 and 2020, remaining below the EU average. Greece did not report any backfilling activities in 2020, while 35.9% of construction waste was backfilled in 2022. Greece's recovery rate reached 100% in 2020, meeting the Waste Framework Directive's target for 2020, but dropped to 72,7% in 2021. In 2021, 95% of the Greek population was connected to at least secondary wastewater treatment. Large companies in the Greek construction sector are reporting circular business models and adopting circular activities. However, large companies focus on the recyclability of materials, and a comprehensive assessment of their impacts is missing.

([78]) 2015=100.

([79]) 34.24 m^2 per capita versus the EU average of 36.46 m^2 for residential buildings and 14.09 m^2 per capita versus the EU average of 15.51 m^2 for non-residential buildings.

Table A9.1: **Circularity indicators**

	2018	2019	2020	2021	2022	2023	EU-27	Latest year
Industry								
Resource productivity (purchasing power standard (PPS) per kilogram)	1.6	1.8	1.8	2.0	2.0	-	2.5	2022
Circular material use rate (%)	3.0	3.4	4.2	3.5	3.1	-	11.5	2022
Eco-innovation index (2013=100)	73.1	92.1	85.8	93.3	101.6	-	121.5	2022
Recycling of plastic packaging (%)	39.8	37.6	-	-	-	-	40.7	2021
Cost of air emissions from industry (EUR bn)	11.0	9.8	8.0	8.6	-	-	352.7	2021
Built environment								
Recovery rate from construction and demolition waste (%)	97.0	-	100.0	72.7	-	-	89.0	2020
Soil sealing index (base year = 2006)	102.4	-	-	-	-	-	103.4	2018
Non-residential floor area (m^2 per capita)	25.3	25.6	25.9	-	-	-	18.0	2020
Waste backfilled (%)	97.2	-	-	-	35.9	-	9.9	2020

Source: Eurostat, European Environment Agency

Digital transformation is key to ensuring a resilient and competitive economy. In line with the Digital Decade Policy Programme, and in particular with the targets in that Programme for digital transformation by 2030, this Annex describes Greece's performance on digital skills, digital infrastructure/connectivity and the digitalisation of businesses and public services. Where relevant, it makes reference to progress on implementing the Recovery and Resilience Plan (RRP). Greece allocates 22.1% of its total RRP budget to digital (EUR 7.77 billion) ([80]). Under Cohesion Policy, an additional EUR 2.7 billion (13% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation ([81]).

The Digital Decade Policy Programme sets out a pathway for EU's successful digital transformation by 2030. Greece's national roadmap outlines the actions it intends to take to reach the objectives and targets at national level. The first Report on the State of the Digital Decade highlighted the need to accelerate and deepen the collective efforts to reach the EU-wide targets and objectives ([82]). Among others, a digitally skilled population increases the development and adoption of digital technologies and leads to productivity gains and new business models. It also leads to higher inclusion and participation in an environment increasingly shaped by the digital transformation ([83]). Digital technologies, infrastructure and tools all play a role in addressing the current structural challenges, including strategic dependencies, cybersecurity and climate change.

Stepping up work to develop digital skills remains a priority for Greece. Just over half of the population aged between 16 and 74 has at least basic digital skills, close to the EU average, but stagnating since 2021. The share of individuals employed as ICT specialists remains very low compared to the EU average. Greece has begun implementing RRP measures that are expected to help develop digital skills in the labour force; for example, training programmes on digital, green and financial literacy skills for at least 150 000 participants have been completed.

In digital infrastructure/connectivity, fixed very high capacity network (VHCN) coverage continues to grow significantly, with an average annual growth of 37.9%, well above the EU annual average growth (7.4%). Nevertheless, the percentage of households covered by VHCNs in 2023 remained low compared to the EU average. By contrast, overall 5G coverage exceeds the EU average, showing a substantial increase since 2022. Greece is a frontrunner in making available the 5G pioneer bands, with a very high score (99%) for this indicator (EU average 73%). In 2023, under the RRP, Greece launched a project to promote the installation of the fibre optic infrastructure in buildings.

Digital technologies are slowly being integrated into business activities. 43% of SMEs have a basic level of digital intensity. Although this score shows a slight progress (i.e. 5.7% average annual growth progress), it remains below the EU average (58%). On the adoption of advanced digital technologies, enterprises in Greece also score below the EU average of 55% for the three technologies monitored in the Digital Decade (i.e. cloud computing services, big data and artificial intelligence), with only 34% of enterprises using at least one of them. Under the RRP, implementation of the project launched in 2022 to contribute to the digital transition of SMEs is progressing. In 2022, 5.6% of enterprises in Greece reported ICT service outage due to cyberattacks (e.g. ransomware or denial of service attacks). Over the same year, 6.9% of enterprises developed or reviewed their ICT security policy within the previous 12 months.

Greece continues to show a strong commitment to the digital transformation of its public services and has made substantial progress in moving public services online. The results are not yet fully reflected in the indicator

([80]) The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation.

([81]) This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 Cohesion Policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

([82]) European Commission (2023): Report on the State on the Digital Decade 2023, 2023 Report on the state of the Digital Decade | Shaping Europe's digital future (europa.eu).

([83]) See for example OECD (2019): OECD Economic Outlook, Digitalisation and productivity: A story of complementarities, OECD Economic Outlook, Volume 2019 Issue 1 | OECD iLibrary (oecd-ilibrary.org) and OECD (2019): Going Digital: Shaping Policies, Improving Lives – Summary, https://www.oecd.org/digital/going-digital-synthesis-summary.pdf.

on digital public services for citizens which remains below the EU average, however, the indicator of the digital public services for businesses scores above the EU average. In 2023, the percentage of e-Government users in Greece was higher than the EU average (80% vs 75%). As part of its RRP measures, Greece is implementing a major project aimed at modernising digital public services, through the ongoing digitisation of key archives and related services to reduce the time cost of providing services to people and enterprises. In terms of access to electronic health records, Greece scores below the EU average in the composite indicator.

Table A10.1:**Key Digital Decade targets monitored by the Digital Economy and Society Index indicators**

	Greece			EU	Digital Decade target by 2030 (EU)
	2022	2023	2024	2024	
Digital skills					
At least basic digital skills	**52%**	**52%**	**52%**	**56%**	**80%**
% individuals	2021	2021	2023	2023	2030
ICT specialists ([1])	**2.4%**	**2.5%**	**2.4%**	**4.8%**	**20 million**
% individuals in employment aged 15-74	2021	2022	2023	2023	2030
Digital infrastructure/connectivity					
Fixed very high capacity network (VHCN) coverage	**20%**	**28%**	**38%**	**79%**	**100%**
% households	2021	2022	2023	2023	2030
Fibre to the premises (FTTP) coverage ([2])	**20%**	**28%**	**38%**	**64%**	**-**
% households	2021	2022	2023	2023	
Overall 5G coverage	**66%**	**86%**	**98%**	**89%**	**100%**
% populated areas	2021	2022	2023	2023	2030
Digitalisation of businesses					
SMEs with at least a basic level of digital intensity	**39%**	**NA**	**43%**	**58%**	**90%**
% SMEs	2021		2023	2023	2030
Data analytics	**NA**	**NA**	**25%**	**33%**	**-**
% enterprises			2023	2023	
Cloud	**15%**	**15%**	**18%**	**39%**	**-**
% enterprises	2021	2021	2023	2023	
Artificial intelligence	**3%**	**3%**	**4%**	**8%**	**-**
% enterprises	2021	2021	2023	2023	
AI or cloud or data analytics ([3])	**NA**	**NA**	**34%**	**55%**	**75%**
% enterprises			2023	2023	2030
Digitalisation of public services					
Digital public services for citizens	**52**	**65**	**76**	**79**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Digital public services for businesses	**48**	**74**	**86**	**85**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Access to e-health records	**NA**	**61**	**74**	**79**	**100**
Score (0 to 100)		2022	2023	2023	2030

(1) The 20 million target represents about 10% of total employment.
(2) The fibre to the premises coverage indicator is included separately as its evolution will also be monitored separately and taken into consideration when interpreting VHCN coverage data in the Digital Decade.
(3) At least 75% of EU enterprises have taken up one or more of the following, in line with their business operations: (i) cloud computing services; (ii) big data; (iii) artificial intelligence.

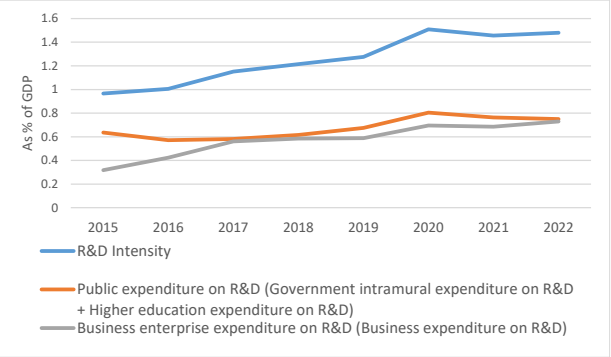
Source: Digital Economy and Society Index

This Annex provides a general overview of the performance of Greece's research and innovation system, which is essential for delivering the twin transition and ensuring long-term competitiveness.

Greece is a 'moderate innovation performer' with a performance at 79.5% of the EU average. According to the 2023 edition of the European Innovation Scoreboard ([84]), Greece's performance is increasing at a rate higher than that of the EU. While the country's performance gap to the EU is becoming smaller, overall Greek innovation performance remains below the EU average.

Despite significant progress over the last two decades, R&D intensity ([85]) was 1.48% in 2022, significantly below the European average (2.24%) ([86])**.** In 2011, gross expenditure on research and development (GERD) amounted to 0.68% of GDP (EUR 1 391 million); in 2022, it reached 1.48% of GDP and had almost doubled in terms of absolute expenditure (EUR 3.085 million) ([87]). While public expenditure on R&D surpassed the EU average in 2022 (0.75% vs 0.73%), business R&D expenditure on R&D as % of GDP continued to lag markedly behind (0.73% vs 1.48% in 2022). The Greek recovery and resilience plan (RRP) further contributes to boosting R&D expenditure, for example through investments in research centre infrastructure and basic and applied research programmes. These investments are complemented by the forthcoming national strategy for research, technological development and innovation, providing strategic priorities for investments. Going forward, it will be key to place continuous emphasis on the performance evaluation ([88]) of research-performing institutions to further boost the quality of research outputs and enhance the effectiveness of R&D investment ([89]).

Graph A11.1: **R&D expenditure as % of GDP 2015-2022**



Source: Eurostat. 2023

Moreover, the long-term sustainability of R&D investments from the RRP needs to be ensured in light of the R&D expenditure target of 1.81% outlined in the national reform programme 2020 ([90]). This is important also given the persisting regional inequalities in research performance ([91]), with the region of Attica accounting for 59.2% of public R&D expenditure in Greece (2020) and prevailing in high-impact scientific publications ([92]).

Science-business links have improved but continuous effort is needed to transform Greece into a knowledge-intensive economy. The number of public-private scientific co-publications as a percentage of total publications with 8.8% was above the EU average of 7.6% in 2022. While still below the EU average, public expenditure on R&D financed by business enterprise (national) as percentage of GDP is on an increasing trend (0.042 in 2020 vs 0.047 in 2021). The RRP investment 'research-create-innovate' will provide further support for collaborative research. Improvement can be achieved by having the

([84]) 2023 European Innovation Scoreboard (EIS), country profile: Greece https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-el.pdf. The EIS provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems (also compared to the EU average).

([85]) Defined as gross domestic expenditure on R&D as a percentage of GDP.

([86]) European benchmark target for R&D intensity: 3%.

([87]) https://ec.europa.eu/eurostat/databrowser/view/rd_e_gerdtot/default/table?lang=en.

([88]) This has been described among others here: https://alogedu.files.wordpress.com/2020/11/pissarides-growth_plan_2020-11-23_1021.pdf.

([89]) As for instance measured in scientific publications of the country within the top 10% most cited scientific publications worldwide as % of total scientific publications of the country.

([90]) https://commission.europa.eu/content/2020-european-semester-national-reform-programmes-and-stabilityconvergence-programmes_en.

([91]) For more information please see Annex 17.

([92]) https://metrics.ekt.gr/regions.

Table A11.1:**Key innovation indicators**

Greece	2010	2015	2020	2021	2022	EU average (1)
Key indicators						
R&D intensity (GERD as % of GDP)	0.60	0. 97	1.51	1.46	1.48	2.24
Public expenditure on R&D as % of GDP	0.36	0.64	0.80	0.76	0.75	0.73
Business enterprise expenditure on R&D (BERD) as % of GDP	0.24	0.32	0.70	0.69	0.73	1.48
Quality of the R&I system						
Scientific publications of the country within the top 10% most cited publications worldwide as % of total publications of the country	8.5	9.1	8.92	:	:	9.6
Patent Cooperation Treaty (PCT) patent applications per billion GDP (in PPS)	0.4	0.5	0.62	:	:	3.4
Academia-business cooperation						
Public-private scientific co-publications as % of total publications	5.5	7.3	8.6	8.4	8.8	7.6
Public expenditure on R&D financed by business enterprise (national) as % of GDP	:	0.040	0.042	0.047	:	0.054
Human capital and skills availability						
New graduates in science & engineering per thousand pop. aged 25-34	10.9	13.4	14.2	17.1	:	16.9
Public support for business enterprise expenditure on R&D (BERD)						
Total public sector support for BERD as % of GDP	:	0.049	0.132	0.156	:	0.204
R&D tax incentives: foregone revenues as % of GDP	0.003	0.005	0.029	0.029	:	0.104
Green innovation						
Share of environment-related patents in total patent applications filed under PCT (%)	20.3	11.2	12.9	:	:	14.7
Finance for innovation and economic renewal						
Venture capital (market statistics) as % of GDP	0.008	0.010	0.015	0.021	0.026	0.085

(1) EU average for the last available year or the year with the largest number of country data
Source: Eurostat, OECD, DG JRC, Science-Metrix (Scopus database and EPO's Patent Statistical Database), Invest EU

necessary research infrastructure and know-how to provide specialised services and innovation support to businesses, especially SMEs. In this context, Greece received the support of the Horizon Europe Policy Facility ([93]) in two continuous cycles to support the revision of the national research infrastructure roadmap for the 2021-2027 programming period, ensuring its long-term sustainability and fostering scientific excellence and collaborative research, in line with the 2021-2027 smart specialisation strategy ([94]).

Greece's innovation potential is still lacking. Innovation generation is still lagging behind, reflected in terms of innovation outputs, with 0.62% patent applications per billion GDP compared to the EU average of 4.9% (for 2020). The value added in medium-high-tech manufacturing in Greece as percentage of total value added stands at 1.36% compared to 6.26% of the EU average ([95]). These weaknesses result from relatively low R&D expenditure of SMEs (0.26% of GDP vs an EU average of 0.34% of GDP), and a relatively low level of venture capital (0.026% of GDP vs 0.085% of GDP EU average). Various support programmes, for instance Elevate Greece to promote start-ups or an RRP investment for SMEs holding Horizon 2020 'Seal of Excellence' quality labels are providing support in these fields. Investment under the RRP supports higher R&I uptake, but addressing the regional disparity remains a key challenge. To this end, the cohesion policy will help Greece to redress the main regional imbalances, prioritising investment in sectors with regional competitive advantages identified in the process of entrepreneurial discovery (EDP) in every region.

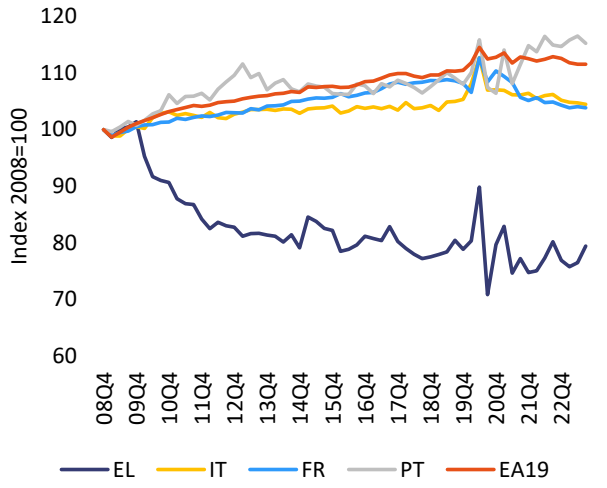
([93]) https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility/psf-open/support-greece-implementation-psf-country-recommendations.

([94]) https://gsri.gov.gr/ethniki-stratigiki-exypnis-exeidikefsis-2021-2027/.

([95]) Eurostat.

Productivity growth in Greece is above the EU average, but the productivity level is one of the lowest of the EU. Real labour productivity per person has been recovering since 2020. In 2022, it surpassed EU productivity growth with an increase of 3% (versus 1.4% in the EU). At the same time, total factor productivity is recovering. This can be mainly attributed to the improvement in labour utilisation via an increase in average hours worked as people return to work after the coronavirus outbreak, and a reduction in unemployment ([96]). However, capital deepening (more capital being invested per worker) had a negative contribution to productivity developments during the last years. More recent data shows that productivity growth was lower in 2023, but still positive (1%) compared to the EU (-0.8%) ([97]). However, there remains a considerable and persistent gap between Greek hourly productivity in purchasing power standards and that of the EU, as Greece's productivity was 57.4% of the EU average in 2023 ([98]).

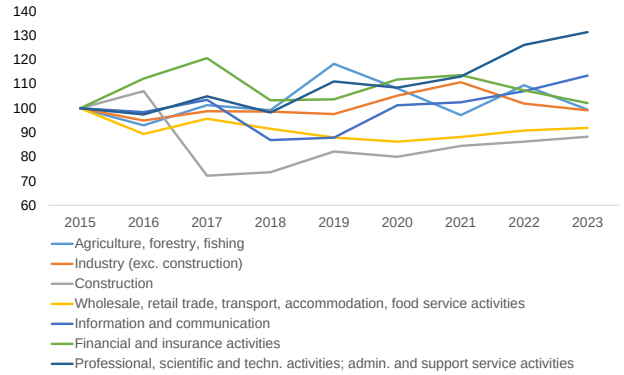
Graph A12.1: **Labour productivity hours worked, whole economy**



Source: Eurostat

On sectoral level, the largest productivity gains were mainly generated by manufacturing followed by service sectors, except for tourism activities. The Greek economy has experienced significant structural change, specifically after the financial and debt crisis, favouring aggregate productivity growth. However, while productivity developments have been rather sluggish in the tourism sector since 2015, the sector has expanded in terms of gross value added (GVA). Main productivity advances in the Greek economy were recorded in professional, scientific and technical activities, although they only represented 5.6% of GVA in 2023.

Graph A12.2: **Labour productivity by sector**



Source: Eurostat

Industry (except construction) in Greece has a small share of GVA with 15.9% compared to the EU average of 20.6%. Within industry, the manufacturing sector only generates 10.2% of GVA compared to 16.7% on average in the EU. However, it is a sector that has maintained its productivity over the years and has converged towards the EU average labour productivity level ([99]). Knowledge-intensive activities and high-tech make up 14% of GVA in manufacturing, though only 5% of final exports are high-tech products. With this low share, Greece occupies last place among EU countries. On a positive note, the sector attracts increasingly more investment, and exports have more than doubled since 2017 ([100]).

The Greek economy is dominated by labour-intensive tourism activities. Wholesale and retail trade, transport, accommodation and food service activities, which relate to tourism and passenger transport activities, are the most important sectors of the Greek economy and represented a share of 27.4% of GVA in 2023 ([101]). At the same time, the tourism sector is one of the largest employers, in contrast to its country peers

([96]) Greek National Productivity Board (2023). Annual Report 2023.

([97]) European Commission Autumn Forecast.

([98]) Level_vs_growth_prodd – Ameco database.

([99]) Eurostat.

([100])Bank of Greece.

([101])Among EU countries, Greece has the second highest share in these activities according to Eurostat.

where tourism plays also an important role (Spain, Italy, Portugal, France) but where share of employment is lower ([102]). Modernisation of the sector through investment in digitalisation and green technologies could improve productivity.

The very low level of total investment in Greece is impeding productivity growth. In 2023 ([103]), public net investment increased markedly (0.68% of GDP and 55% of the EU average), while private net investment remains one of the lowest of the EU (-0.14% of GDP and 3.7% of the EU average) (see Table A12.1). Public and private investment have been on a growing path since 2019, but such low levels are impeding productivity improvements. Greece ranks among the last in the EU on the 5-year average in private investments ([104]). A noticeable difference can be seen due to the implementation of the Greek recovery and resilience plan (RRP), thanks to the stimulating effect of EU funding. Greece has the highest RRP as a share of GDP (16.7% of 2019 GDP), and the RRP is already supporting economic recovery.

The Greek economy is highly dependent on the import of investment goods, which makes business vulnerable to supply chain disruptions and erratic producer price developments. Despite a certain easing of producer price pressure compared to 2022, Greek business depends heavily on capital goods imports and external markets when investing in new capacities. According to the EIB Investment Survey, some 68% of Greek firms considered the disruption of logistics and transport to be the main obstacles to international trade ([105]).

While Greece's energy mix is still dependent on fossil fuels, its development of renewable energy resources is above the EU average. In 2022, Greece still depended by 82% on fossil fuels ([106]). The renewables production capacity in Greece is above the EU average (56.6% against 53% in 2022). 37.5% of the RRP is dedicated to measures that support climate objectives, and the loan facility was used to develop several photovoltaic parks in 2023. The REPowerEU chapter adopted in December 2023 contains seven reforms to support decarbonisation, renewable energy and renewable gases (hydrogen and biomethane) (see Annex 7).

Greece could further benefit from the advantages of the single market. It is one of the EU countries that is the least integrated into the single market, with the average of exports and imports of goods and services representing only 21.9% of GDP in 2022 (EU average 46%). The Single Market Scoreboard indicates scope for improvement on implementation of the Single Market Law ([107]). Greece performs very well when it comes to transposing EU directives, having a deficit of only 0.3% and ranking 4th out of 27 Member States (EU average 0.7%). It also ranks 8th in conformity, with only 0.9% of directives being wrongly transposed (EU average 1.1%). However, Greece ranks last for the time taken to transpose directives. It could only solve 59% of the SOLVIT cases (79) it handled as lead centre, far below the EU average of 88.3%. Most of the unresolved cases are due to the systemic issue of delays to certify insurance periods and the late payment of pensions. Indicatively, its resolution rate without these cases would have been 89.3%.

Greece shows a lack of dynamism in the business environment. With 5.3%, Greece shows one of the lowest churn rate in the EU ([108]) This lack of dynamism is partly attributable to its economic structure, which is dominated by very small firms (46.6% of people in Greece are employed in micro businesses, against 29.4% in the EU in 2022) and which makes it more difficult to adapt to e.g. new technologies and upskilling. The public administration continues to reform, mainly within the RRP framework, but government

([102])Eurostat.

([103])European Commission Autumn Forecast.

([104])Eurostat sdg_08_11

([105])EIB Investment Survey 2023 - Greece overview

([106])Total energy supply by sources, IEA

([107])Single Market Scoreboard 2024.

([108]) Business churn is the sum of the birth rate and death rate of all active firms with 10 employees or more, excluding holding companies. An enterprise birth occurs when an enterprise (for example a company) starts from scratch and begins operations, amounting to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. An enterprise death is the termination of an enterprise, amounting to the dissolution of a combination of production factors with this restriction that no other enterprises are involved in the event. Deaths do not include: exits from the population of active enterprises due to mergers, takeovers, break-ups or restructuring of a set of enterprises.

effectiveness is still considered less efficient than the EU average (see annex 13) which drags on the business environment.

The package of various measures introduced to help consumers during the cost-of-living crisis could be reassessed. In 2020, in the face of the pandemic, several exceptional measures were taken to stabilise food prices and prices of other products considered as basic by the Ministry of Investments and Development. Ever since, these measures have been expanded (increased number of codes of products concerned) and prolonged (for 6 months each time). While some of the measures seem to have helped reduce information asymmetry for consumers (website for comparing prices) and maintain consumer price stability, the impact of some others on price, competition and the supply chain could be reassessed as they could lead to market distortions and have negative consequences for consumers.

Taxation instability and business regulations challenge the smooth functioning of the business environment. According to the IMD Competitiveness Ranking 2023 ([109]), Greece has improved since 2019. However, 81% of firms still identify business regulations as long-term barriers to investment, and 89% identify uncertainty about the future as another barrier. A high educational level, skilled workforce, dynamism of the economy, cost competitiveness and open and positive attitudes are considered as strengths. However, Greek companies are far less confident than the EU average that the law and courts are protective of their investments (28% against the EU average of 54%) ([110]). 60% of the surveyed investors give *Frequent changes in legislation or concerns about quality of the law-making process* as their main reason for concern in Greece. The legal system is not considered efficient enough and protective of property rights, and enforcement is weak. While tax levels are quite low, frequent changes and uncertainty around tax regulation make the tax system an obstacle to business growth. Key reforms to improve regulation, the judicial system and to ease doing business are included under the RRP, most notably reform of the Hellenic Cadastre (land registry). This is expected to provide legal certainty over property rights and promote private investment.

The Greek population is highly educated, but Greece scores lowest in the EU on the skills match index and education levels are declining. The percentage of graduates from higher education in 2022 was 30.5% (slightly above the EU average of 30.2%), but its results from the OECD's Programme for International Student Assessment (PISA) have deteriorated since 2012, with the student underachievement rate in basic skills one of the highest in the EU in 2022 in all three fields tested (see Annex 15). Such a decline in basic skills may have consequences for the country's competitiveness and social cohesion.

Greece is a moderate innovator in the 2023 Innovation Scoreboard. The population with a higher education is above the EU average (118.5%), but doctorate graduates make up only 70.3% of the EU average. Overall R&D performance is increasing at a rate higher than that of the EU (8.5% points). The country's performance gap to the EU is becoming smaller. Firm investment in R&D has increased by 23.1 points since 2016 but remains at 70.5% of EU performance ([111]) (see Annex 11).

While significant reforms have been undertaken in recent years, the Greek public procurement system shows some shortcomings, especially on limited competition. The country has the second highest share of single bid procedures in the EU (50% in 2023), and the trend has increased compared to recent years. In addition, the contract was not awarded in 17% of public procurement procedures in 2023. Another factor hindering competition is the low use of quality-based criteria, with 85% of contracts awarded based on the lowest price. Also, the award decision-making period, despite a slight decrease in 2023 compared to the previous year, does not show much improvement and is still the highest in the EU ([112]). The relevant RRP investments and reforms, including professionalisation of the public procurement workforce, further digitalisation of public procurement and implementation of the national

([109]) World Competitiveness Ranking 2023 – IMD business school for management and leadership courses

([110]) 2024 EU Justice Scoreboard

([111]) European Innovation Scoreboard.

([112]) Access to public procurement | Single Market Scoreboard (europa.eu)

public procurement strategy, are expected to address such shortcomings.

Access to finance remains difficult for businesses, especially small and medium-sized enterprises (SMEs), but Greece's improvement to 'investment grade' opens new perspectives. According to the Survey on access to finance of enterprises (SAFE) 2023, 76.8% of SMEs received everything or most of what they requested as bank loans, which represents a significant increase over the last few years ([113]). For 9.9% of firms the loan was refused or rejected, which is still above the EU average (8.7%). Around 20% of Greek firms rely on grants for financing which is above EU average (16%) ([114]). The improvement in its return-on-investment rating in 2023, confirmed by four rating agencies, may attract more capital and funding and make lending easier. This upgrading has made the cost of borrowing more on a par with that in other EU Member States for non-financial corporations. Some reforms under the RRP aim to make it easier to access finance, but measurements of their impact are still to come (see also Annex 18).

The persistence of late payments weighs on business liquidity. In 2023, 57% of Greek companies declared that they experienced problems due to late payments from private or public bodies in the past 6 months, versus the EU average of 48.7% (see Table A12.1). This is particularly an issue in the health sector.

Access to and the exercise of certain regulated professions is still restricted, which may be detrimental to a dynamic business environment. Especially architects, civil engineers, patent agents, tourist guides, lawyers and accountants are more regulated than the EU average ([115]). Lawyers in Greece are subject to restrictions on the legal form of their business, while it is considered incompatible for lawyers to engage in certain other activities. This could affect the potential of this sector to innovate and roll out digital solutions and new business models. The profession of patent agent has been opened slightly since 2019 according to Greek authorities, and the training programme for tourist guides has been accelerated (2 months). As regards civil engineers, different categories of activity exist, and additional authorisation is required to undertake public works or studies. Such restrictions impact the efficiency of service provision. Also notaries are more strictly regulated than in many other OECD countries as the OECD PMR shows ([116]). A more proportional approach to regulation for such professions would make the respective sectors more competitive.

Greece has reached the stage of technical readiness for the single market/cross-border information exchange, the 'once-only' technical system (OOTS) ([117]), before initiating its first OOTS transactions. As part of the Single Digital Gateway Regulation ([118]), the system will enable the automated cross-border exchange of evidence between competent authorities improving online access to information, administrative procedures and assistance within the EU. The onboarding of Greek competent authorities is crucial for the system to function smoothly and to reduce administrative burden.

([113])SAFE survey.

([114])EIB Investment Survey – European Union Overview

([115])Communication on updating the reform recommendations for regulation in professional services, COM(2021)385.

([116])2018 Product Market Regulation Country Note : Greece by OECD - Issuu

([117])Regulation (EU)2018/1724

([118])Implementing Regulation (EU) 2022/1463.

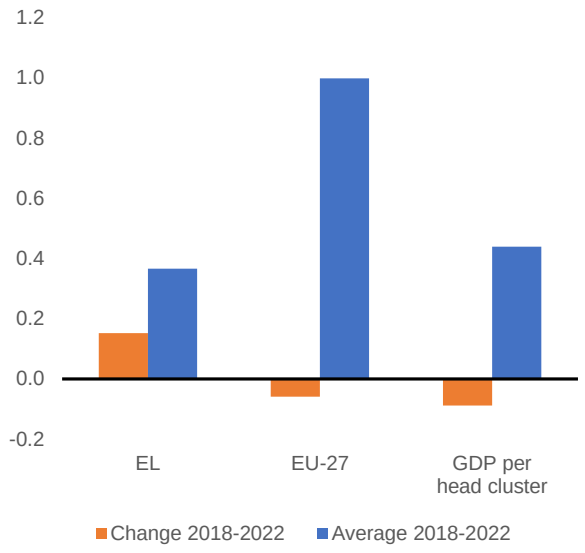
Table A12.1:**Industry and the Single Market**

Greece							
POLICY AREA	**INDICATOR NAME**	**2019**	**2020**	**2021**	**2022**	**2023**	**EU27 average***
HEADLINE INDICATORS							
Economic Structure	Net Private investment, level of private capital stock, net of depreciation, % GDP[1]	-2,9	-3,1	-1,4	-0,2	-0,1	**3,8**
	Net Public investment, level of public capital stock, net of depreciation, % GDP[1]	-1,1	-0,8	-0,1	0,3	0,7	**1,2**
Cost competitiveness	Real labour productivity per person in industry (% yoy)[2]	-0,4	1,3	9,9	-7,8	-2	**-1,24**
	Nominal unit labour cost in industry (% yoy)[2]	2,6	-3,4	-6,1	12,5	7,1	**9,83**
SINGLE MARKET							
Single Market integration	EU Trade integration, % (Average intra-EU imports + average intra EU exports)/GDP[2]	17,8	16,4	20,2	23,1	21,9	**42,9**
Compliance	Transposition deficit, % of all directives not transposed[3]	0,8	1	1,8	0,4	0,3	**0,7**
	Conformity deficit, % of all directives transposed incorrectly[3]	1	1,1	1,5	1,3	0,9	**1,1**
	SOLVIT, % resolution rate per country[3]	87,5	90,4	15,4	44,1	59,0	**88,3**
	Number of pending infringement proceedings[3]	33	44	49	46	44	**25,9**
Restrictions	EEA Services Trade Restrictiveness Index[4]	0,05	0,05	0,05	0,05	0,05	**0,05**
Public procurement	Single bids, % of total contractors[3]	40	42	40	48	50	**28,6**
	Direct Awards, %[3]	0	1	1	1	1	**8,1**
ECONOMIC STRUCTURE							
Shortages	Material Shortage (industry), firms facing constraints, %[5]	5,9	4,8	9,3	12,3	7,3	**17,2**
	Labour Shortage using survey data (industry), firms facing constraints, %[5]	4,3	4,3	6,2	8,8	14,8	**23,3**
	Vacancy rate (business economy), % of vacant posts to all available ones (vacant + occupied)[2]	0,725	0,5	0,7	1,3	2,0	**2,5**
Strategic dependencies	Concentration in selected raw materials, Import concentration index based on a basket of critical raw materials[6]	0,13	0,13	0,13	0,12	0,22	**0,22**
	Installed renewables electricity capacity, % of total electricity produced[2]	48,0	52,1	56,3	56,6	-	**53**
BUSINESS ENVIRONMENT - SMEs							
Investment obstacles	Impact of regulation on long-term investment, % of firms reporting business regulation as major obstacle[7]	86,3	59,3	58,4	51,0	52,0	**22,2**
Business demography	Bankruptcies, Index (2015=100)[2]	-	-	-	-	-	**105,6**
	Business registrations, Index (2015=100)[2]	-	-	-	-	-	**120,2**
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment[8]	-	16	13	13	15	**15**
	Payment gap - public sector, difference in days between offered and actual payment[8]	-	15	12	13	13	**16**
	Share of SMEs experiencing late payments in past 6 months, %[9]	62,0	63,6	54,9	52,3	57,0	**48,7**
Access to finance	EIF Access to finance index - Loan, Composite: SME external financing over last 6 months, index values between 0 and 1[10]	0,21	0,20	0,13	0,22	-	**0,49**
	EIF Access to finance index - Equity, Composite: VC/GDP, IPO/GDP, SMEs using equity, index values between 0 and 1[10]	0,08	0,09	0,12	0,11	-	**0,17**

Source: (1) AMECO, (2) Eurostat, (3) Single Market Scoreboard, (4) OECD, (5) ECFIN BCS, (6) COMEXT and Commission calculations, (7) EIB Investment Survey, (8) Intrum Payment Report, (9) SAFE survey, (10) EIF SME Access to Finance Index.
* Own Commission calculations for the EU27 average

Greece's public administration is essential for the economy's competitiveness by, in particular, shaping the conditions for the twin transitions and creating a favourable business environment. The perception of government effectiveness has continued to improve but is still below the EU average. The recovery and resilience plan (RRP) was recently updated to include reforms in multi-level governance, digitalisation and anti-corruption, public employees' skills and public transport procurement (see annex 12). Greece has put measures in place to reduce the energy consumption of its public administration ([119]).

Graph A13.1: **Government effectiveness**



Average value over 2018-2022 and change over 2018-2022. The GDP per head bar shows the mean value of the government effectiveness indicator for the group of EU countries belonging to the same GDP per head cluster as Greece (EU countries are ranked in terms of their GDP per head and grouped into three equally sized clusters).
Source: Worldwide Governance Indicators.

Greece has strengthened the coordination and monitoring of policy initiatives, while challenges regarding the quality of the law-making process continue, including in consultation of stakeholders. The use of emergency procedures in the legislative process has been significantly reduced. Complete draft laws, however, are still not published for public consultation. As part of the RRP, Greece is working to improve the use of evidence in policymaking and increase the capacity for policy analysis and legal drafting. A new secretariat for strategic foresight in the Presidency of the Government will support long-term planning. The role and capacity of Greece's independent authorities, including market regulators, is currently being reviewed.

Greece continues to invest in the skills of its public administration employees. This is particularly important given the low participation in adult learning and the relatively low share of highly skilled occupations in the public administration (Graph A13.2). The National Centre for Public Administration and Local Government launched reskilling and upskilling programmes. Human resource management will be strengthened by a new IT system. In addition, an integrated skills and incentives system is expected to help make public services more productive and develop goal setting for civil servants (Law 4940/2022). Following a successful pilot, a permanent bonus system is under way as part of the RRP. Law 5062/2023 sets out procedures and criteria to select and appoint public agency managers. A nationwide written competition to recruit new public sector employees attracted more than 100 000 candidates.

Greece is progressing in implementing its strategy to digitalise public services. While still performing below the EU average, in 2023, the e-government benchmark overall score rose to 68.1, up from 60.3 in 2022 (Table A13.1).

In 2023 a new system of multi-level governance was adopted (Law 5013/2023), **which is yet to be operationalised**. It is part of a RRP reform to improve the allocation of responsibilities and coordination among the public administration's different levels. An information system, managed by the Ministry of Interior, will help monitor the roles of public sector bodies.

Efforts have been made to strengthen the planning of public investments under the RRP. The national development plan, launched in 2021, sets out the rules for developing projects financed solely from national funds and complements the planning for EU co-financed investments. The plan helps integrate objectives across all levels of government and financing sources, provide more consistency, avoid overlap and facilitate strategic alignment. A single monitor and control system for all programmes and projects will support the plan's implementation.

([119])Ministry of Energy, Ministerial Ordinance ΥΠΕΝ/ΔΕΠΕΑ/68315/502, 02/07/2022.

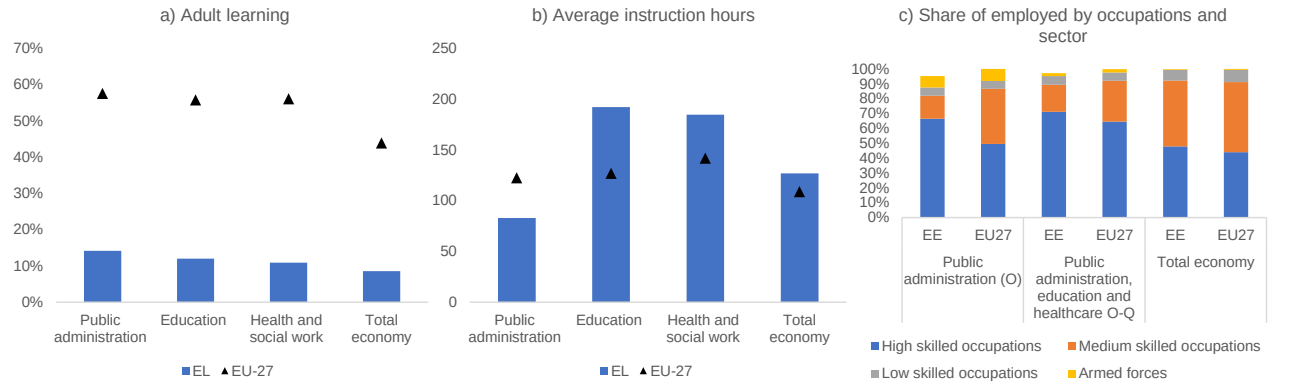
Table A13.1:**Public administration indicators**

EL	Indicator ([1])	2019	2020	2021	2022	2023	EU-27([2])
E-government and open government data							
1	Share of internet users within the last year that used a public authority website or app	n/a	n/a	n/a	80.5	79.7	75.0
2	E-government benchmark overall score ([3])	n/a	52.2	52.3	60.4	68.1	75.8
3	Open data and portal maturity index	0.7	0.9	0.8	0.6	0.6	0.8
Educational attainment level, adult learning, gender parity and ageing							
4	Share of public administration employees with higher education (levels 5-8, %)	53.0	53.1	52.5 (b)	53.7	56.4	52.9
5	Participation rate of public administration employees in adult learning (%)	4.3	4.4	3.2 (b)	2.5	2.9	17.9
6	Gender parity in senior civil service positions ([4])	4.8	7.6	12.8	15.8	17.8	9.2
7	Ratio of 25-49 to 50-64 year olds in NACE sector O	2.0	1.9	1.8 (b)	1.7	1.5	1.5
Public financial management							
8	Medium-term budgetary framework index	0.9	0.9	0.9	0.9	n/a	0.7
9	Strength of fiscal rules index	0.9	0.9	0.9	0.9	n/a	1.4
Evidence-based policy making							
10	Regulatory governance	n/a	n/a	1.25	n/a	n/a	1.7

([1]) High values indicate a good performance, except for indicator # 6. ([2]) 2023 value. If unavailable, the latest value available is shown. ([3]) Measures the user centricity (including for cross-border services) and transparency of digital public services as well as the existence of key enablers for the provision of those services. ([4]) Defined as the absolute value of the difference between the percentage of men and women in senior civil service positions.
Flags: (b) break in time series; (d) definition differs; (u) low reliability.
Source: E-government activities of individuals via websites, Eurostat (# 1); E-government benchmark report (# 2); Open data maturity report (# 3); Labour Force Survey, Eurostat (# 4, 5, 7); European Institute for Gender Equality (# 6); Fiscal Governance Database (# 8, 9); OECD Indicators of Regulatory Policy and Governance (# 10).

The efficiency and quality of the justice system continues to face serious challenges. The main challenge is the length of proceedings, in particular litigious civil disputes, which has further deteriorated. Tackling the quality of the justice system requires improving e-justice despite some use of digital tools in courts. Ongoing reforms aim to improve the quality of the justice system, including revising the judicial map and introducing remote hearings. On judicial independence, no systemic deficiencies have been reported.

Graph A13.2: **Adult education. a) Participation rate in job-related employer-sponsored education and training (left side); b) average instruction hours spent by participants in education and training by sector (centre); c) share of employed people by occupation and by sector (right side)**



(1) 2022 data. Chart c: high: International Classification of Occupations (ISCO) categories 1-3; medium: ISCO4-8; low: ISCO 9
Source: Eurostat, 2022 Adult Education Survey (charts a and b) and Labour Force Survey, 2023 data (chart c).

ANNEX 14: EMPLOYMENT, SKILLS AND SOCIAL POLICY CHALLENGES IN LIGHT OF THE EUROPEAN PILLAR OF SOCIAL RIGHTS

The European Pillar of Social Rights is the compass for upward convergence towards better working and living conditions in the EU. This Annex provides an overview of Greece's progress in implementing the Pillar's 20 principles and the EU headline and national targets for 2030 on employment, skills and poverty reduction.

Table A14.1:**Social Scoreboard for Greece**

Policy area	Headline indicator	
Equal opportunities and access to the labour market	Adult participation in learning (during the last 12 months, excl. guided on the job training, % of the population aged 25-64, 2022)	15.1
	Early leavers from education and training (% of the population aged 18-24, 2023)	3.7
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2023)	52.4
	Young people not in employment, education or training (% of the population aged 15-29, 2023)	15.9
	Gender employment gap (percentage points, population aged 20-64, 2023)	19.8
	Income quintile ratio (S80/S20, 2022)	5.2
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2023)	67.4
	Unemployment rate (% of the active population aged 15-74, 2023)	11.1
	Long term unemployment (% of the active population aged 15-74, 2023)	6.2
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, 2022)	79.9
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2022)	26.3
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2022)	28.1
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2022)	20.34
	Disability employment gap (percentage points, population aged 20-64, 2022)	25.9
	Housing cost overburden (% of the total population, 2022)	26.7
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2022)	29.1
	Self-reported unmet need for medical care (% of the population aged 16+, 2022)	9
Critical situation / To watch / Weak but improving / Good but to monitor / On average / Better than average / Best performers		

Update of 25 April 2024. Members States are categorised based on the Social Scoreboard according to a methodology agreed with the EMCO and SPC Committees. Please consult the Annex of the Joint Employment Report 2024 for details on the methodology.
Source: Eurostat

There are positive developments in the labour market, although some challenges remain for specific groups. The employment rate continued its upward trend (67.4% in 2023), but it is still one of the lowest in the EU. While the unemployment rate fell to 10.2% in March 2024 (a record low since 2009), it remains the second highest in the EU following Spain. Although the long-term unemployment component is also decreasing, it is among the highest in the EU (6.2% in 2023 vs 2.1% in the EU). This particularly affects women and persons with disabilities (respectively 63.3% and 64.6% of the long-term unemployed in 2022). The labour market outcomes of women could be improved, with 8.7% of women aged 15-74 in long-term unemployment and a very large gender employment gap at 19.8 percentage points in 2023. Meanwhile, in Q4-2023, the situation for young people (15-29) was still challenging, with the shares of those in unemployment (21.1%) and of those not in employment, education or training (16.3%) still significantly higher than the respective EU averages (11.4% and 11.2%). Persons with disabilities also continue to face obstacles in integrating in the labour market and challenges in getting access to training. More generally, there is scope to improve the effectiveness of outreach activities and targeted individualised activation and training services, especially for vulnerable groups, including by involving the social partners and by continuously improving public employment services and their coordination with social services. The potential of the social economy to support the employment of people from vulnerable groups could be further exploited. The Recovery and Resilience Facility (RRF) and the European Social Fund Plus (ESF+) make a significant contribution to boosting efforts in these areas and to making progress towards the national employment rate target of 71.1% by 2030.

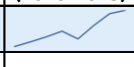
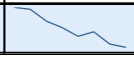
The introduction of an in-work benefit scheme in Greece has the potential to improve long-term unemployment and at-risk-of poverty rates and increase the employment rates for women and vulnerable groups. The Greek employment rate for women is more than 15 percentage points lower than the EU average, whilst more than a million women are currently either long-term unemployed or unable to be active in the labour market. A recent Commission staff analysis shows that the introduction of an in-work benefit scheme targeted at low-income jobs has the potential to significantly increase the labour participation rate in Greece by approximately 60,000 allowing an increase in employment by more than 1% and reducing the at-risk-of-poverty rate for the active population by 0.6 percentage points. Combined with other efforts to encourage part-time work and more flexible employment, such a scheme could substantially address labour shortages, improve inclusion and reduce poverty through bringing more young people and women into the labour market.

Labour shortages are rising in some sectors and skills mismatches continue to be a challenge, while skills development is a priority area. While keeping below the EU average (1.6% vs 2.6% in Q3-2023), the job vacancy rate increased in Greece. Sectors such as agriculture, construction and tourism have difficulties in filling vacancies for multiple reasons, including working conditions and demographic change. Together with wider demographic challenges, the limited labour market integration of various groups and other issues, this also undermines Greece's potential to increase its economic competitiveness. Only 15.1% of all Greek adults took part in training activities in 2022 (vs 39.5% in the EU) ([120]). The rate of early leavers from education and training is significantly below the EU average (3.7% vs 9.5% in the EU in 2023), however the performance of 15-year-olds in basic skills declined sharply, as indicated by the 2022 PISA data (see Annex 15). The set-up of individual learning accounts and the effective implementation of a skills forecasting system (using the labour market diagnostic mechanisms in place) can improve people's employability. Several vocational education and training, lifelong learning, upskilling and reskilling actions are planned, with the support of the ESF+ and the RRF. These will help Greece to make progress towards the national target of 40% of all adults participating in training every year by 2030.

Although decreasing, levels of poverty and social exclusion in Greece remain high. The share of people at risk of poverty or social exclusion fell to 26.1% in 2023 from 26.3% in 2022 (against a 2022 EU average of 21.6%). The rate is significantly higher for people born outside the EU, at 52.2% in 2022 (vs 40% in the EU). The proportion of children at risk of poverty fell to 21.8% in 2023 from 22.4% in 2022 (against a 2022 EU average of 19.3%), while the share of those experiencing severe material and social deprivation increased to 15.6% in 2023 from 15.5% in 2022 (against a 2022 EU average of 8.4%). There was a high level of energy poverty in 2022, particularly for households at risk of poverty (see Annex 8). The share of households overburdened by housing costs increased to 28.5% in 2023 from 26.7% in 2022(almost three times higher than the 2022 EU average of8.7%). There is a need for a comprehensive housing strategy, focusing on social housing and housing affordability. The ESF+ provides substantial funding (more than EUR 1.5 billion) for actions promoting social inclusion and tackling poverty. Further efforts to strengthen social policy are key to achieving the national target of lifting 860 000 people out of poverty or social exclusion by 2030.

There is room to strengthen social protection. The adequacy of the minimum income scheme is below the EU average, reaching around 59.9% of the poverty threshold and only 27.8% of the income of low-wage earners (vs 46.8% in the EU, income year 2021)]. In 2022, the proportion of people living in very low work-intensity households, and who are below the poverty threshold, that received social benefits fell to 58.4%, compared to 81.1% in the EU. Greece's tax and benefit system has one of the lowest inequality reducing effects in the EU (23%, vs 51% in the EU) and the impact of social transfers (excluding pensions) on reducing poverty fell to 18.2% in 2023 from 20.3% in 2022 (against a 2022 EU average of 35.3%). There are still gaps in access to social protection for people in non-standard forms of employment and for the self-employed. This is an important issue because solo self-employment makes up to 19.6% of the population in employment. Many self-employed people are not covered by unemployment or sickness benefits and some categories of the self-employed need to opt in to access pensions. There are relatively high levels of material and social deprivation rates among the self-employed, people on temporary contracts and the unemployed.

Table A14.2:**Situation of Greece on 2030 employment, skills and poverty reduction targets**

Indicators	Latest data	Trend (2016-2023)	2030 target	EU target
Employment (%)	67.4 (2023)		71.1	78
Adult learning[1] (%)	15.1 (2022)		40	60
Poverty reduction[2] (thousands)	-401 (2023)		-860	-15 000

(1) Adult Education Survey, special extraction: adults in learning in the past 12 months, special extraction excl. guided on-the-job training.
(2) Change in the number of persons at risk of poverty or social exclusion (AROPE), reference year 2019.
Source: Eurostat, DG EMPL.

The ageing population is leading to an increase in the number of people who need long-term care. The share of the population aged 65 and over is expected to increase from

([120])Adult Education Survey 2022, special extraction excluding guided training on-the-job training.

22.7% in 2022 to 25.8% in 2030 and 35.5% in 2050, highlighting the need for affordable long-term care (LTC) services. Public expenditure on LTC in Greece is considerably below the EU average (0.15% vs 1.74% of GDP in 2021). The governance system for LTC is fragmented, and there are no comprehensive formal LTC services that guarantee universal coverage. The number of formal LTC workers is among the lowest in the EU, at 0.3 per 100 people aged 65 and over. The system relies primarily on informal family carers, with nearly three out of ten adults in Greece providing informal care or assistance at least once a week ([121]). On top of that, self-reported unmet needs for medical care, already much higher than the EU average, increased significantly in 2023. The affordability of healthcare is also an issue, with out-of-pocket payments accounting for 33.3% of total healthcare expenditure in 2021 (see Annex 16).

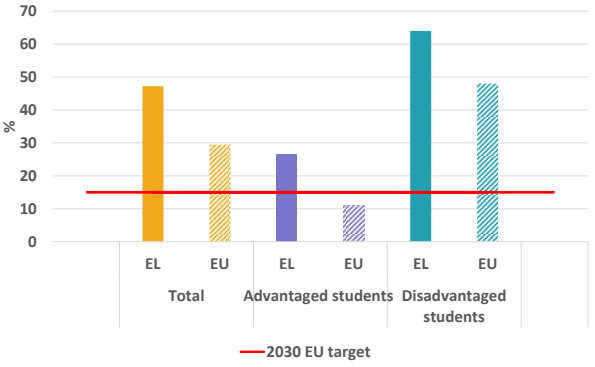
([121])Source: Survey of Gender Gaps in Unpaid Care, Individual and Social Activities, EIGE, 2022.

This Annex outlines the main challenges of Greece's education and training system based on the 2023 Education and Training Monitor and the 2022 OECD Programme for International Student Assessment (PISA) results.

Greek students' underachievement rate is one of the highest in the EU in all three PISA fields tested, and it has increased. The 2022 OECD Programme for International Student Assessment (PISA) ([122]) showed that 47.2% of Greek 15-year-olds had difficulties in interpreting and recognising how a simple situation can be represented mathematically (vs EU 29.5%). 37.6% could not identify the main idea in a text of moderate length and reflect on its purpose (vs EU 26.2%). 37.3% could not recognise the correct explanation for familiar scientific phenomena and draw evidence-based conclusions (vs EU 24.2%). Greece's increase in underperformance since 2012 is also among the highest in the EU, while the share of top-performing students is well below the EU average in all three fields. Only 2% of young Greeks demonstrated advanced skills in mathematics (EU 7.9%), 2% in reading (EU 6.5%) and 1.5% in science (EU 6.9%). Those results may reflect, for example, the underfunding of education policies, the impact of socio-economic factors on performance, the lack of school autonomy, challenges in the implementation of competence-based teaching methods, and an evaluation culture.

The decline in students' performance in basic skills has consequences for the country's competitiveness and social cohesion. Underachievement is frequent across the entire socio-economic distribution. The rate for the top quartile of the socio-economic distribution is three times higher than the average rate in other EU countries (26.7% vs 10.9%) and has significantly increased (8.2 pps vs EU 2.2 pps). At the same time, the socio-economic gap has widened, as 6 out of 10 students from disadvantaged backgrounds (64%) did not reach a minimum proficiency level in mathematics (vs 52.8% in 2018). In addition, Greece has the highest share of underachieving students with migrant background ([123]) in the EU, although their performance gap disappears when accounting for socio-economic background and language spoken at home. These overall negative trends underline the longstanding challenges of the Greek education system and the need to improve quality of education and to address socio-economic disparities to equip young people with the basic skills needed for employability and life. This is even more important in the light of substantial skills mismatches and the low participation in adult learning (5.1% in 2022 vs EU 39.5%) (see Annex 14).

Graph A15.1: **Underachievement rates in mathematics by socio-economic background, PISA 2022**



Source: OECD (2023).

Greece expects to have enough teachers in future while there are efforts underway to empower them. This can be partly explained by the large pool of potential teacher candidates and demographic trends. Notably, while a high number of teachers are approaching retirement age, a major reduction in the school student population is projected for the coming years. Greece has been proceeding with 28 500 permanent appointments of teachers for all levels of compulsory education, including for special needs education, after a decade of no hirings in education. However, existing public data does not allow us to assess whether all needs are covered or if there are specific subjects that might suffer shortages. While teachers benefit from high job security, their career prospects remain limited. Opportunities and incentives are being gradually provided to teachers, based on law 4823/2021 on 'Schools' upgrade and teachers' empowerment', but a national career framework for teachers was only

([122])OECD (2023), PISA 2022 Results (Volume I): The State of Learning and Equity in Education.

([123])Students with a migrant background include both foreign-born students and native-born with parents born abroad.

Table A15.1:**EU-level targets and other contextual indicators under the European Education Area strategic framework**

				2012		2018		2023	
Indicator			Target	Greece	EU-27	Greece	EU-27	Greece	EU-27
[1]Participation in early childhood education (age 3+)			96%	85.3% 2013,d	91.8% 2013	50.8% d	92.2%	:	92.5% 2021,d
[2]Low-achieving 15-year-olds in:		Reading	< 15%	22.6%	18.0%	30.5%	22.5%	37.6% 2022	26.2% 2022
		Mathematics	< 15%	35.7%	22.1%	35.8%	22.9%	47.2% 2022	29.5% 2022
		Science	< 15%	25.5%	16.8%	31.7%	22.3%	37.3% 2022	24.2% 2022
Early leavers from education and training (age 18-24)	[3]Total		< 9 %	11.3%	12.6%	4.7%	10.5%	3.7%	9.5%
	[3] By gender	Men		13.7%	14.5%	5.7%	12.1%	3.8%	11.3%
		Women		8.9%	10.6%	3.6%	8.7%	3.6%	7.7%
	[4] By degree of urbanisation	Cities		7.8% b	11.2%	3.0%	9.4%	2.5%	8.6%
		Rural areas		18.0% b	14.0%	8.0%	11.0%	6.0%	9.9%
	[5] By country of birth	Native		8.2%	11.3%	3.9%	9.2%	3.3%	8.2%
		EU-born		23.6% u	26.2%	22.5% u	22.4%	: u	21.0%
		Non EU-born		45.4%	30.1%	16.7%	23.0%	24.5% u	21.6%
[6]Socio-economic gap (percentage points)				38.1	:	34.4	29.5	37.3 2022	37.2 2022
[7]Exposure of VET graduates to work-based learning			≥ 60% (2025)	:	:	:	:	35.4%	64.5%
Tertiary educational attainment (age 25-34)	[8]Total		45%	34.5%	34.1%	42.8%	38.7%	44.5%	43.1%
	[8] By gender	Men		29.4%	29.1%	35.0%	33.3%	36.3%	37.6%
		Women		39.7%	39.2%	51.0%	44.2%	53.3%	48.8%
	[9] By degree of urbanisation	Cities		43.0% b	43.5%	49.4%	49.0%	53.1%	53.3%
		Rural areas		23.4% b	24.8%	27.7%	27.7%	29.5%	31.7%
	[10] By country of birth	Native		38.1%	35.4%	46.0%	39.7%	46.2%	44.2%
		EU-born		17.7%	29.3%	21.6% u	36.7%	39.9%	40.2%
		Non EU-born		8.1%	24.2%	12.9%	31.0%	15.8%	37.1%
[11]Participation in adult learning (age 25-64)			≥ 47% (2025)	:	:	16.0% 2016	37.4% 2016	15.1% 2022	39.5% 2022
[12]Share of school teachers (ISCED 1-3) who are 55 years or over				17.3% 2013	22.7% 2013	21.3%	23.8%	29.8% 2021	24.5% 2021

Notes: b = break in time series; d = definition differs; e = estimated; p = provisional; u = low reliability; : = data not available.
Source: 1,3,4,5,7,8,9,10,12=Eurostat; 11= Eurostat, Adult Education Survey; 2,6=OECD, PISA.

recently developed and teacher evaluation started in school year 2022/2023 ([124]).

Early childhood education and care has been reformed in recent years. Greece ranks last in the EU regarding participation in early childhood education and care (age 3+). In 2019 ([125]), the rate stood at 68.8% vs EU: 92.9% and the EU-level target for 2030 of 96%. To respond to the low overall participation rate from age 3 to the starting age for compulsory primary education, a series of measures have been taken, such as the introduction of mandatory pre-schooling from age 4 which has been fully implemented since the school year 2021/2022 ([126]).

Tertiary educational attainment has reached the EU-level target set for 2030. In 2023, 44.5% of Greeks aged 25-34 held a tertiary education degree, compared with the EU average of 43.1%. This constitutes a significant increase of 7.3 pps during the last decade (vs an average EU increase of 8 pps) and underlines the fact that Greek society places a high value on higher education. To achieve a better gender balance, Greece took a major policy initiative related to gender equity in higher education. In addition, a new governance model is being introduced in higher education.

Education for environmental sustainability is addressed in Greek legislation and new school curricula. During consecutive reforms, soft skills and life-science competencies in areas such as climate change, environmental awareness and sustainable development have been incorporated into the new curricula. Those notions constitute an integral part of the innovative action in schools, the 'Skills Labs'. Shifting from knowledge-based to competence-based education and integrating into them entrepreneurial, green, soft, and transversal skills, will be crucial to improve competitiveness and stimulate economic growth for a robust post-crisis recovery.

([124])Education and Training Monitor 2023, Volume II.

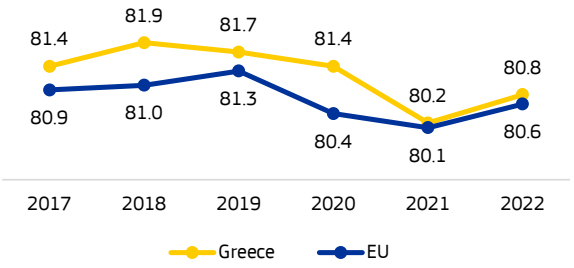
([125])More recent data are not available for Greece.

([126])Education and Training Monitor 2022, Volume II.

A healthy population and an effective, accessible and resilient health system are prerequisites for a sustainable economy and society. This Annex provides a snapshot of population health and the health system in Greece.

Life expectancy in Greece used to be above the EU average, but it has dropped significantly since 2019 and is now marginally above the EU average. This reflects the effect of COVID-19 in Greece, which caused three times more deaths in 2021 than in 2020 ([127]). Greece's mortality rate from treatable causes was just above the EU average in 2021. In the same year, the leading causes of mortality were diseases of the circulatory system ('cardiovascular diseases') and cancer, followed by COVID-19. Lung cancer and ischaemic heart disease continue to be the leading causes of preventable deaths.

Graph A16.1: **Life expectancy at birth, years**

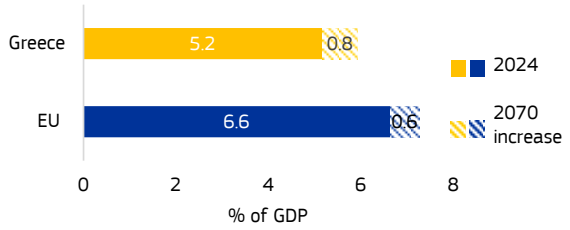


Source: Eurostat

Total health spending relative to GDP in Greece (9.2%) was below the EU average (10.9%) in 2021. The figure is down from 9.5% in 2020, as the rebound in GDP outpaced the growth in health spending. Provisional data from the OECD suggest that in 2022 total health spending declined further to 8.6% of GDP. In 2021, public spending on health accounted for 11.6% of total public spending, which is almost the average for these last 5 years. Spending per capita on inpatient care, pharmaceuticals and outpatient care are all below the EU average. However, as a percentage of total health spending, spending on inpatient care and pharmaceuticals is among the highest in the EU, whilst spending on outpatient care is again below the EU average.

In 2021, spending on prevention in Greece amounted to 4.0% of total spending on healthcare, compared to 6.0% for the EU overall. There was a more than three-fold rise in the share of total spending on preventive care between 2019 and 2021 (up 106% for the EU overall). In Greece, the main factors explaining the rise in the spending on preventive care in 2021 are the substantial increases for immunisation and epidemiological surveillance, and risk and disease control programmes. Another measure to safeguard public health is rationalisation of the use of antimicrobials. The situation in Greece had improved significantly, with the daily consumption of antimicrobials in 2021 falling to 69% of that in 2019. However, in 2022 it increased significantly, to the second highest level in the EU and almost back to the 2019 level. According to the Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach, by 2030 Greece is supposed to reduce total consumption of antibiotics in community and hospital settings combined by 27% from the 2019 level.

Graph A16.2: **Projected increase in public expenditure on healthcare over 2024-2070**



Baseline scenario
Source: European Commission / EPC (2024)

Public health spending as a proportion of total health spending (62.1% in 2021) is the lowest in the EU. The share of out-of-pocket payments for healthcare is very high (33.3%, the second highest in the EU). In 2022, Greece reported the second highest proportion of population (among EU countries) reporting unmet needs for medical care (see Annex 14), with the widest disparities in the EU between income groups. There are also substantial disparities between regions (see Annex 17). Public spending on health is projected to increase by 0.8

([127])Based on data provided directly by Member States to the European Centre for Disease Prevention and Control, under the European Surveillance System.

Table A16.1:**Key health indicators**

	2018	2019	2020	2021	2022	EU average (latest year)
Treatable mortality per 100 000 population (mortality avoidable through optimal quality healthcare)	90,0	93,1	92,4	94,5	NA	93.3 (2021)
Cancer mortality per 100 000 population	241,7	241,0	240,8	238,9	NA	235.4 (2021)
Current expenditure on health, % GDP	8,1	8,2	9,5	9,2	NA	10.9 (2021)
Public share of health expenditure, % of current health expenditure	59,2	61,5	61,8	62,1	NA	81.1 (2021)
Spending on prevention, % of current health expenditure	1,2	1,3	1,8	4,0	NA	6.0 (2021)
Available hospital beds per 100 000 population	420	418	423	427	NA	525 (2021)
Doctors per 1 000 population	6,1	6,2	6,2	6,3	NA	4.1 (2021)*
Nurses per 1 000 population	2,0	2,0	2,1	NA	NA	7.9 (2021)
Total consumption of antibacterials for systemic use, daily defined dose per 1 000 inhabitants per day ***	34,1	34,1	28,1	23,5	32,9	19.4 (2022)

Note: The EU average is weighted for all indicators except for doctors and nurses per 1 000 population, for which the EU simple average is used. Doctors' density data refer to practising doctors in all countries except Greece, Portugal (licensed to practise) and Slovakia (professionally active). Nurses' density data refer to practising nurses in all countries except Ireland, France, Portugal, Slovakia (professionally active) and Greece (hospital only).

Source: Eurostat Database; except: * OECD, ** Joint Questionnaire on non-monetary healthcare statistics, *** ECDC, **** Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach.

percentage points (pps) of GDP by 2070 due to population ageing, compared to 0.6 pps for the EU overall (see Graph 16.2 and Annex 21).

Greece has the highest number of licensed doctors but one of the lowest number of nurses per capita across EU countries. General practitioners account for only 6% of all doctors, which is by far the lowest share among EU countries. According to the new definition used by Eurostat (following the EU Directive 2005/36/EC on the recognition of professional qualifications), the number of nurses per 1 000 population (2.1 in 2020) was among the lowest in the EU and much lower than the EU average (7.9 in 2021). Furthermore, this is not expected to improve as the number of nursing graduates is relatively low.

Historically, investment in healthcare in Greece has lagged the EU average, but EU funds provide substantial support. Among EU countries, Greece has allocated a comparatively low percentage of GDP to investment in gross capital formation in healthcare. Through its recovery and resilience plan (RRP), Greece plans to invest EUR 1 486 million in healthcare. Reforms in the RRP focus on primary healthcare, pharmaceutical funding, public health, mental health and the hospital remuneration scheme. The RRP investments target hospital infrastructure and digitalisation, aim to introduce home nursing and set up a radiotherapy centre and a haematological clinic for cell and genetic therapy. Complementary investments are planned under the cohesion policy funds in 2021-2027. Greece will invest around EUR 416 million from the European Regional Development Fund mainly in health infrastructure, health equipment and e-health services. Greece will also deploy around EUR 323 million from the European Social Fund Plus to improve the accessibility and effectiveness of health services, with a focus on marginalised communities, vulnerable groups and children ([128]).

Policies to keep public spending on pharmaceuticals under control face challenges. These policies include clawbacks – repayment orders issued to the industry when spending is over-budget. For 2023, pre-agreed budget ceilings will probably be complied with, as authorities negotiated higher rebates. However, there seem to be difficulties in controlling demand through compulsory prescribing protocols and rational prescribing practices.

Reforms to strengthen primary care rely on achieving appropriate numbers of doctors and nurses. Recent reforms focus on doctors. To help familiarise medical students with the primary healthcare field, as part of the RRP reforms, a family medicine module has been added to all medical schools' curricula. Besides this, 5 out of the 7 medical schools now have active academic curricula in family medicine. A new pay package was offered to doctors and now 3 488 ([129]) doctors are working in primary healthcare, enabling more than 50% of the population to be registered with a doctor. The aim is to reach a stock of doctors to ensure full and equal access to the health system through primary healthcare.

([128])EU cohesion policy data reflect the status as of 13 May 2024.

([129])https://prosopikos.gov.gr/

Annex 17 showcases the economic and social regional dynamics in Greece. It provides an analysis of economic, social and territorial cohesion in the Greek regions and assesses emerging investment and subnational reform needs to boost economic growth, social development and competitiveness in the country.

Overview of economic and social performance at regional level

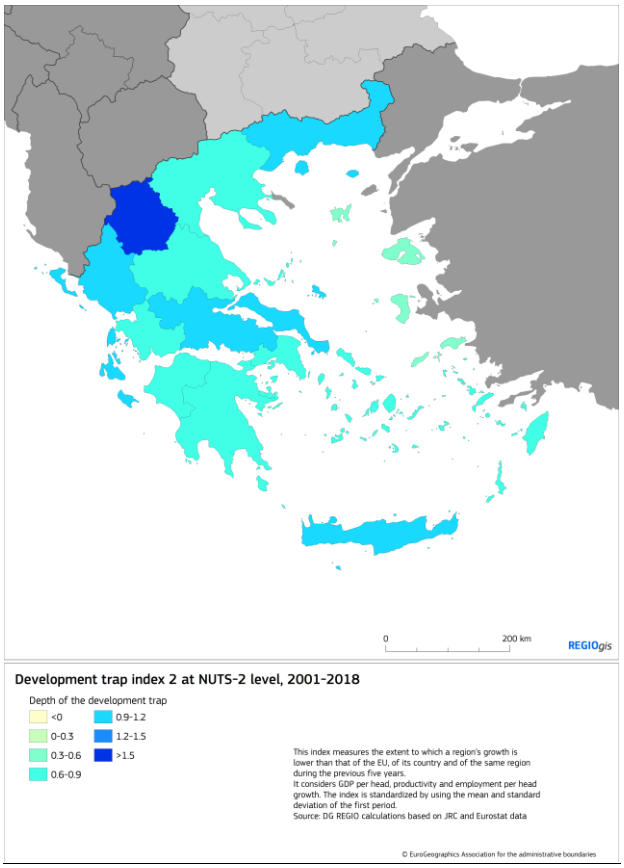
Greek GDP per capita has decreased over the past decade in relation to the EU average, with some regions facing a development trap ([130]). GDP per capita has grown modestly by 0.85% between 2013 and 2022. Against this background, regional economic disparities in Greece have increased only moderately while convergence remains limited. Except for the capital region of Attiki (90%), by 2022, all Greek regions were below 72% of the EU average in terms of GDP per capita.

In 2021, economic activity was concentrated mainly in two regions (Attiki and Kentriki Makedonia), amounting to 61% of the national GDP, while the at-risk-of-poverty or social exclusion rate showed important regional disparities. Despite the reduction in unemployment and the increase in employment levels, regional disparities in employment persist between the capital region (Attiki) and the rest of the country. At national level, the long-term unemployment rate was three times the EU average in 2023 (6.2% against 2.1% of EU average) (Annex 14). All regions were above the EU average, with the highest long-term unemployment rates set between 11% and 7.9% of the active population in 2023, Dytiki Makedonia, Ipeiros, Kentriki Makedonia, Sterea Elláda being the most affected. Kriti was the region with the lowest level of poverty or social exclusion in 2023 (18.5%), whereas Dytiki Ellada (35.2%), Peloponnisos (35.7%) and Anatoliki Makedonia, Thraki (31.9%) were the most affected.

Entering the labour market is particularly challenging for young people (aged 15-24). In 2023, 45% of young people living in Dytiki Makedonia were unemployed and between 31.9% and 42.9% were unemployed in the regions of

A number of regions find themselves in a persistent downturn in economic growth, employment, and productivity compared to their neighbours and their own past economic trajectories. The regions that endured the deepest development traps between 2001 and 2018 were Kastoria, Thesprotia, Phthiotis, Phocis, Dytiki Attiki and Dytiki Makedonia (Map A17.1).

Map A17.1: **Depth of development trap in NUTS-2 regions in Greece**



Between 2013 and 2023, the population in all Greek regions shrunk to differing degrees, including in the capital region of Attiki. This reduction -coupled with an ageing population and net out-migration of people between 15-39 - have shrunk the working population and increased the share of the elderly population. As a result, two regions (Peloponnisos and Ionia Nisia) fall within a talent development trap, ([131]) while four more

([130]) The geography of EU discontent and the regional development trap

([131]) Communication Harnessing talent in Europe's regions, COM(2023) 32 final

Table A17.1:**Selected indicators at regional level in Greece**

Region name	GDP per head (Purchasing Power Standard/PPS)	GDP per head growth	Population change	Youth unemployment rate	Long-term unemployment	At-risk-of-poverty or social exclusion	Unemployment rate	Population aged 25-64 with low educational attainment	Self-reported unmet needs for medical examination	Electric vehicle charging points
	EU27 = 100 2022	Average % change on the preceding year 2013-2022	% change 2013-2023	% of labour force aged 15-24 2023 (Notio Aigaio: 2021)	% of labour force 2023	% of population 2023 (EU: 2022)	% of labour force 2023	% of population aged 25-64 2023	% of population 2023 (EU: 2022)	Points per million inhabitants 2022
European Union	100	1.44	1.7	14.5	2.1	21.6	6.1	20.2	2.2	287.5
Elláda	67	0.85	-5.4	26.7	6.2	26.1	11.1	18.9	11.6	53.2
Attiki	90	0.88	-3.1	21.2	5.3	22.7	9.4	10.6	10.3	132.5
Voreio Aigaio	41	-0.09	-2.0	28.1	4.7	30.4	10	23.4	13.3	0.4
Notio Aigaio	67	-0.62	-2.3	33	1	20.5	7.1	31.4	12	5.7
Kriti	56	0.93	-1.1	21.7	3.2	18.5	10.8	25.7	10.2	8.3
Anatoliki Makedonia, Thraki	47	0.87	-8.3	31.8	7.4	31.9	12.1	35.6	15.6	1.9
Kentriki Makedonia	53	1.32	-6.8	30.5	8.8	29.6	14.1	18.2	12.4	14.9
Dytiki Makedonia	60	-3.79	-11.0	45	11	32.7	16.7	20.2	13.1	1.9
Ipeiros	47	0.85	-7.1	42.9	8.9	20.1	13.8	20.2	11.8	3
Thessalia	52	1.82	-8.0	30.8	6.4	24.7	12.9	21.8	10.7	3.5
Ionia Nisia	57	-0.01	-2.9	30.9	4.7	27.7	14.7	25.7	14.2	1.5
Dytiki Elláda	49	0.34	-5.8	31.2	5.2	35.2	9.8	23.3	12.8	5.6
Sterea Elláda	72	1.49	-10.0	32.7	7.9	22.8	9.9	24.9	11.5	0.9
Peloponnisos	59	1.01	-8.9	31.1	5.5	35.7	9.6	26.2	13.1	4

Source: Eurostat, EDGAR database

regions are at risk of falling within a talent development trap (Dytiki Ellada, Thessalia, Ipeiros, Dytiki Makedonia). To address the challenges related to attracting, developing and retaining talent, the Peloponnisos region is expected to receive support under the Commission's Talent Booster Mechanism ([132]).

The share of population with low educational attainment - one of the main obstacles to economic growth and competitiveness - stood slightly below the EU average (22.4% compared with 24.7% in 2023). However, Attiki, Dytiki Makedonia, Ipeiros and Thessalia are the only regions where more than 50% of young people (aged 30-34) completed their tertiary education, the national average being 45.1%, slightly higher than the EU average of 43.9% in 2023. Early school leaving remains low for the country as a whole (3.7% in 2023) (Annex 15), but significantly higher in Sterea Ellada (13.6%), Anatoliki Makedonia, Thraki (8.8%) and Dytiki Ellada (6.9% in 2022). However, the increase in underperformance of 15-years-old students in basic skills as tested by the Programme for International Student Assessment (PISA) is among the highest in the EU (Annex 15).

Greece made progress in recent years with its regional innovation performance, **with Attiki being the most innovative region and Kriti and Kentriki Makedonia following in the ranking of Greek regions, according to the 2023 Regional Innovation Index.** Performance has increased for all regions - most strongly for Ipeiros and Peloponnisos - and also at a higher rate than the EU average (8.5). In terms of regional competitiveness, the Greek regions show an upward trend since 2016 while remaining below the EU average. In 2022 (EU average=100, Greece=73.1), Attiki was the most competitive of the Greek regions (92.3), followed by Kentriki Makedonia (69.8).

Access to healthcare was hindered by financial barriers, long waiting lists, and distance. Between 2022 and 2023, Greece experienced a further 29% rise in self-reported unmet medical needs, from 9% to 11.6%, with the indicator increasing at least fourfold for households below the at-risk-of-poverty threshold. The sharpest rise was recorded in Dytiki Makedonia, from 8.5% to 13.1%. The indicator also stayed high and above the national average in Anatoliki Makedonia, Thraki (15.6%), Ionia Nisia (14.2%), Voreio Aigaio (13.3%), and Peloponnisos (13.1%).

The lack of key public transport infrastructures in rail and bus transport hinders socio-economic development and

([132])https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform/talent-booster-mechanism_en

people's quality of life. In 2022, an EU-wide survey on passenger mobility ([133]) showed that the number of trips by public transport for short-distances in Greek cities was half the EU average, with private cars being the main mode of transport. Data show that there is huge wedge in access to public transport between Attiki and all other regions. The same applies to e-mobility. While in Attiki residents have access to 132.5 charging points per million inhabitants (EU average: 287.5), this number drops at least 10-fold for all the other regions.

Investment and subnational reform needs ahead

The Tempi rail tragedy and the extensive damage caused by Storm Daniel highlighted the fragility of the Greek rail system, particularly with regards to rail safety. Greece is due to deploy the necessary physical infrastructures to adequately reduce risks on the rail network in operation: a) accelerate planning and completion of required investments in the rail signaling system and kick start the safe operation of the ERTMS system on all major rail lines, involving not only construction but also authorisation by national safety authorities of the new infrastructure and relevant recertification of drivers to operate safely on ERTMS routes; b) assess climate vulnerability of the rail network and implement progressively investments in climate proofing.

Greece continues to rely heavily on landfill, resulting in a systematic failure to meet EU recycling targets. In 2021, the country's recycling rate stood at 17.5% (EU average: 48%) while landfill accounted for a substantial 65%. According to the 2023 Waste Early Warning report, Greece is among the EU Member States facing a serious risk of failing to meet its 2025 recycling targets ([134]). The challenges ahead are to reach by 2030 an ambitious recycling rate of 60%, and significantly reduce landfill to 10% by 2035.

To reverse the current situation in waste management, robust actions are needed to ensure cost efficiency and the proper functioning and funding of the sector. Priority could be given to the implementation of modern recycling and recovery facilities that receive separated waste, as well as the establishment of complementary separate collection systems. It is important to strengthen the capacity of beneficiaries (regional waste management associations and municipalities), including staffing. Ensuring that the recently established solid waste regulator is staffed and up-and-running is essential for the supervision of the sector.

The functioning and management of the water sector faces a number of challenges. From a lack of strategic planning, fragmented programming and lack of prioritisation to slow project implementation, combined with shortcomings in the operation and maintenance of wastewater infrastructures, as well as limited connection of the private dwellings to the sewage networks. Weak final beneficiaries, repeatedly fail to deliver quality projects on time and on budget; and appear insufficiently equipped to ensure the proper maintenance and operation of wastewater treatment plants. To rationalise and streamline the water sector, it would be important to boost the administrative, technical, organisational and financial capacity of water operators. Developing a tariff-based policy through the recently established water regulator in line with the polluter pays principle, which ensures full cost recovery and financial viability of investments will be key. Comprehensive investments that encompass water, wastewater, energy recovery, digitalisation, water reuse, rainwater and desalination are needed.

Given the increased frequency of extreme natural phenomena, investments in prevention and preparedness against climate change-related risks are crucial. These investments are included in the existing cohesion policy allocation of EUR 1.13 billion ([135]) for promoting climate change adaptation and disaster risk prevention and resilience. However, a greater use of eco-system-based approaches is needed, for more sustainability and cost-effectiveness, building better resilience to climate change and securing biodiversity targets.

([133])https://transport.ec.europa.eu/news-events/news/new-mobility-patterns-study-insights-passenger-mobility-and-urban-logistics-2022-12-20_en

([134])https://environment.ec.europa.eu/publications/waste-early-warning-reports-2023-country-specific-factsheets_en

([135])EU allocation.

Increasing the capacity for businesses to innovate in less developed regions remains a high priority. In particular, further strengthening the capacity for technological innovation transfers by increasing public-private collaboration, cooperation between large businesses and SMEs, facilitating investments in net-zero technologies manufacturing, as well as strengthening innovation enablers and participation in European research and innovation networks, platforms and programmes (Annex 11). Greece could also benefit from the opportunities under the STEP initiative to boost investments in the development and manufacturing of critical technologies to support industry's transformation.

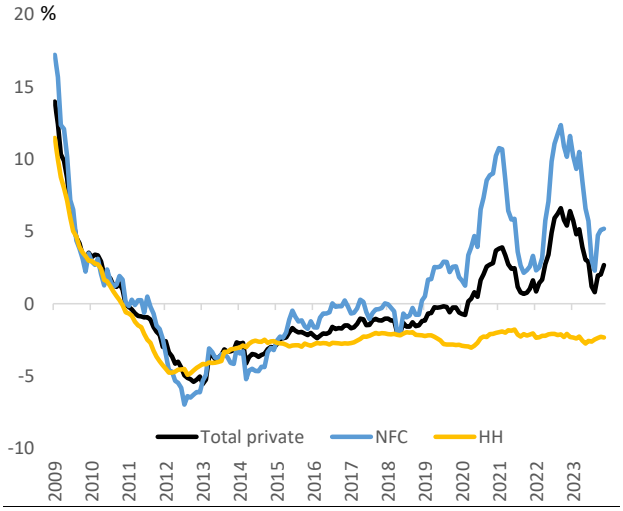
Investing in skills is crucial to supply the Greek economy with a well-trained labour force. Better synergies and coordination between the national system of lifelong learning and skill provision systems and the regional diagnostic mechanisms of labour market are key to tackling skills shortages and better matching labour market needs and skills training.

Adverse demographic trends point to a rise in the ageing population. Long-term care is underdeveloped, with no comprehensive formal services that guarantee universal coverage. A comprehensive mapping could help identify territorial gaps in availability and access to long-term care services while measures facilitating active and healthy ageing could promote autonomy and independent living.

Housing affordability is becoming a serious problem, especially in big cities and areas attracting tourism. Several housing initiatives were promoted by the Greek authorities. These initiatives were however limited and did not fully address the issue. The development of a long-term plan for housing, incorporating systemic policies to promote social housing and housing assistance of good quality, as well as measures tackling homelessness, is key to overcoming the challenge.

Greece's bank-based financial sector is highly concentrated. The domestic banking sector is dominated by four systemically important banks holding around 95% of market share. Very high concentration and low foreign ownership is a direct result of the consolidation triggered by numerous resolutions, restructurings, and recapitalisations during the three Greek economic adjustment programmes (2010-2018). The banks are mainly privately-owned, but the State has, through the Hellenic Financial Stability Fund, sizeable ownership stakes in one systemic bank and the fifth largest bank. The Fund started a divestment process in late 2023 and plans to reduce or eliminate its ownership in all systemic banks by end-2025. The Greek systemic banks are also present in the wider region, with operations in Cyprus and Bulgaria being the most noteworthy.

Graph A18.1: **Evolution of credit activity**



Adjusted for loan sales and securitisations.
Source: ECB.

Following significant asset-quality improvements in recent years, the reduction in the stock of non-performing loans (NPLs) continued more slowly in 2023. The NPL ratio stood at 5.7% of total loans in Q3-2023, 0.5 pps less than at the end of 2022 but significantly less than the 26.5% it reached in 2020 and the 2016 peak of 46.3% ([136]). This sharp reduction in legacy NPLs was largely due to securitisations under the Hellenic Asset Protection Scheme (HAPS) coupled with outright loan disposals. The HAPS expired in October 2022 but was relaunched in November 2023 to run until the end of 2024. The relaunched scheme is also expected to help smaller banks to clean up their balance sheets more rapidly. While the level of NPLs improved markedly in recent years, it remains the highest in the EU, substantially above the EU average (1.8%).

Greek banks continued to be profitable in 2023, while capital ratios remain stable. Profits were mainly driven by net interest income, as the interest rate spread remained high given banks' predominantly variable-interest loan book and the slow repricing of deposit rates. With return-on-equity of 13.1% in the first 9 months of 2023, banks performed better than the EU average (9.9%). This profitability is likely to be challenged in the medium term, due to expectations of: (i) monetary loosening; (ii) higher pass-throughs to deposit rates; (iii) an increasing share of term accounts in the deposit mix; and (iv) potentially higher provisioning needs. In addition, the rising cost of wholesale funding is relevant for profitability, given: (i) the banks' need for future issuances of long-term debt to meet the minimum requirement for own funds and eligible liabilities (MREL); and (ii) the gradual phasing out of targeted longer-term refinancing operations. In the second half of 2023, three of the four major rating agencies returned Greece's sovereign credit rating to investment grade, which in turn is expected to affect favourably the borrowing cost for commercial banks. Greek banks' capital adequacy ratio has remained stable at 17.6% in September 2023 (vs 19.6% in the EU). The capital position of Greek banks remains one of the lowest in the EU and its quality continues to be a concern, due to the high, albeit declining, share of deferred tax credits (these accounted for approximately 44% of total prudential own funds in December 2023 at consolidated level). Although asset quality and profitability have improved markedly in recent years, the financial sector still faces challenges. The main challenges include: (i) the workout of legacy non-performing debt which has exited banks' balance sheets but largely remains in the economy, held by credit servicers (approx. EUR 69.5 billion in December 2023), which are expected to proceed with the resolution and restructuring of this debt; (ii) improving the quality of banks' capital; and (iii) addressing the still substantial multichannel interlinkages between the banking sector and the Greek sovereign.

([136])ECB consolidated banking data.

Table A18.1:**Financial soundness indicators**

	2017	2018	2019	2020	2021	2022	2023	EU	Median
Total assets of the banking sector (% of GDP)	170.4	163.0	168.9	203.7	180.9	158.5	142.5	257.0	184.6
Share (total assets) of the five largest banks (%)	97.0	96.8	97.4	97.0	96.2	95.7	-	-	69.6
Share (total assets) of domestic credit institutions (%)[1]	97.9	98.0	98.7	98.7	98.6	98.5	98.6	-	62.9
NFC credit growth (year-on-year % change)	0.0	0.2	1.8	10.2	3.3	11.6	5.9	-	2.4
HH credit growth (year-on-year % change)	-2.0	-2.2	-2.8	-2.0	-2.0	-2.3	-1.9	-	1.4
Financial soundness indicators:[1]									
- non-performing loans (% of total loans)	45.0	41.6	35.5	26.5	8.6	6.2	5.7	1.8	1.8
- capital adequacy ratio (%)	17.1	16.0	17.3	16.7	16.2	17.4	17.6	19.6	20.1
- return on equity (%)[2]	-1.3	-0.4	0.7	-7.9	-20.1	12.7	13.1	9.9	13.2
Cost-to-income ratio (%)[1]	52.7	55.2	52.1	42.6	64.4	37.2	35.4	52.8	44.9
Loan-to-deposit ratio (%)[1]	83.5	74.7	74.8	63.9	56.9	60.7	62.4	93.3	80.2
Central bank liquidity as % of liabilities	16.2	5.2	3.2	15.3	17.9	12.6	5.4	-	0.7
Private sector debt (% of GDP)	120.4	119.1	110.4	125.6	122.0	100.8	-	133.0	118.4
Long-term interest rate spread versus Bund (basis points)	566.1	378.8	283.8	178.2	125.8	234.4	156.8	107.7	104.2
Market funding ratio (%)	21.5	23.2	25.6	25.9	32.2	30.2	-	50.8	39.8
Green bonds outstanding to all bonds (%)[3]	-	-	-	0.7	1.7	1.8	1.7	4.0	2.7

1-3 **4-10** **11-17** **18-24** **24-27** Colours indicate performance ranking among 27 EU Member States.

(1) Last data: Q3-2023.
(2) Data are annualised.
(3) Data available for EA countries only, EU average refers to EA area.
Source: ECB, Eurostat.

Credit growth continued in 2023 at a slower pace for non-financial corporations (NFCs) but remained negative for households. While the credit-growth rate in 2023 was lower than in 2022, lending to NFCs continued at a steady pace (see Graph A18.1). Stock of lending to households continued to fall, as the increase in new lending to households was more than offset by repayments of existing mortgages. One of the reasons for the subdued demand is the increased cost of lending; with rising interest rates, the weighted average cost of new bank lending has risen significantly. While this affects both households and NFCs, lending to companies in programmes supported by the RRF generally has a lower cost than market-based lending, and this in turn increases demand for lending in the NFC segment.

House prices continued to grow strongly in 2023, unlike in many other EU countries. Apartment prices increased by 11.8% year-on-year in nominal terms in the fourth quarter of 2023, with the strongest increases in large urban centres but remained 7% below their peak levels in 2008. This price rebound, following the large fall in the 2008-2017 period, is also driven by FDI purchases linked to the country's golden visa programme. Housing costs in Greece, expressed as a percentage of households' disposable income, were the highest in the EU at 34.2% in 2022 (EU average: 19.9%). However, net credit growth for mortgages is persistently negative since 2010, so financial stability risks are limited. The Bank of Greece has maintained the countercyclical capital buffer at zero as there are no signs of excessive credit growth.

The Greek capital market remains underdeveloped, despite some progress in recent years. The market-funding ratio has improved since 2017 but remains low at 30.2% in 2022 compared to an EU average of 50.8%. The Athens stock exchange is still far from its pre-2008 levels, in terms of both market capitalisation and daily turnover. Sustainable finance in Greece still lags EU peers, as green bond issuance has stagnated in recent years. The Greek authorities adopted in February 2023 a national strategy for strengthening the Greek capital market. The strategy is built on six pillars: the regulatory and supervisory framework; investment opportunities and the ESG and fintech ecosystem; the taxation framework; the operating framework of the capital market; demand; and financial literacy.

The Greek insurance sector is highly concentrated and smaller than its EU peers. As of 30 September 2023, total assets held by Greek insurers were equivalent to 8.8% of GDP, compared to an EU average of 53.7%. The solvency ratio remained solid at 190.1%, almost twice the regulatory requirement, albeit lower than the EU average of 262.3%. Like elsewhere, the higher-than-expected inflation may generate short-term losses for the non-life business of Greek insurers. According to the EIOPA's dashboard on insurance protection gap for natural catastrophes, Greece has one of the highest insurance protection gaps in Europe for natural hazards, particularly earthquakes and wildfires.

This annex provides an indicator-based overview of Greece's tax system. It includes information on the tax structure (the types of tax that Greece derives most of its revenue from), the tax burden on workers, and the progressivity and redistributive effect of the tax system. It also provides information on tax collection and compliance.

Greece's tax revenues burden exceeded the EU average in 2022. The tax revenue-to-GDP ratio in Greece increased to 41.2% in 2022, which was 1.0 pps above the EU aggregate (Table A19.1). In terms of structure, tax revenues in Greece tend to rely more on growth-friendly taxes (i.e. consumption taxes rather than labour taxes) than the EU average (Graph A19.1). Efforts continued to further improve the tax mix and make the tax system more growth friendly. Revenues from environmental taxes continued to increase and reached 5.6% of GDP in 2022, the highest share in the EU. Revenues from both energy and transport tax (as a % of GDP) are significantly above the EU aggregate, but the relatively low revenue from pollution and resources taxes suggests potential to strengthen the application of the 'polluter pays' principle. Revenues from property taxes (3.0% of GDP) also exceeded the EU aggregate (2.1% of GDP). This was particularly the case for recurrent taxes from immovable property (2.2% of GDP, compared to 1.0% for the EU aggregate), which are among the taxes least detrimental to economic growth.

Greece's labour tax burden is lower than the EU average across the various income levels. Graph A19.2 shows that the labour tax wedge for Greece in 2023 was lower than the EU average for single people at various income levels and for second earners at 67% of the average income. Overall, the progressivity of the tax system (as measured by the ratio of the tax wedge of high- and low- income earners) is similar to the EU average. However, the tax and benefit system reduces income inequality (as measured by the Gini coefficient) far less than the EU average in 2022 (Table A19.1). In Greece, the tax and benefit system reduced the Gini coefficient on average by 4.0 pps, while in the EU this reduction was on average 7.9 pps in 2022. It is notable, however, that the difference from the EU average was reduced in 2022 by comparison with 2021.

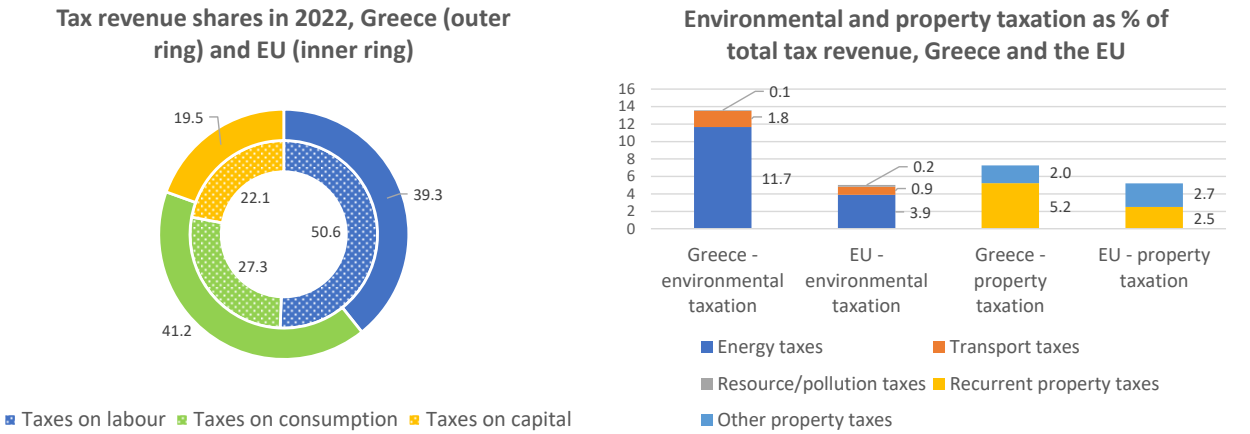
Digitalisation, improving tax compliance and combating tax evasion remain highly relevant to enhancing the performance of the Greek tax administration. At 203% of total net revenue collected, outstanding tax arrears remained the highest in the EU (35.5% on average) in 2021. The VAT compliance gap (the gap between revenues actually collected and the theoretical tax liability) remained high at 17.8% in 2021, declining in line with most EU Member States. However, it remained well above the EU-

Table A19.1:**Taxation indicators**

		Greece					EU-27				
		2010	2020	2021	2022	2023	2010	2020	2021	2022	2023
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	32.3	39.5	40.0	41.2		37.9	40.0	40.4	40.2	
	Labour taxes (as % of GDP)	13.7	17.5	17.2	16.2		20.0	21.3	20.7	20.3	
	Consumption taxes (as % of GDP)	12.0	14.5	15.0	17.0		10.8	10.7	11.2	11.0	
	Capital taxes (as % of GDP)	6.6	7.6	7.9	8.0		7.1	8.0	8.6	8.9	
	Of which, on income of corporations (as % of GDP)	2.6	1.4	2.0	2.5		2.4	2.5	3.0	3.4	
	Total property taxes (as % of GDP)	2.0	3.4	3.2	3.0		1.9	2.3	2.2	2.1	
	Recurrent taxes on immovable property (as % of GDP)	1.0	2.6	2.4	2.2		1.1	1.2	1.1	1.0	
	Environmental taxes as % of GDP	2.7	4.1	4.2	5.6		2.4	2.2	2.3	2.0	
Progressivity & fairness	Tax wedge at 50% of average wage (Single person) (*)	34.4	32.1	30.0	30.3	30.6	33.9	31.7	32.1	31.8	31.7
	Tax wedge at 100% of average wage (Single person) (*)	40.0	38.9	37.4	38.0	38.5	41.0	40.1	39.9	40.0	40.2
	Corporate income tax - effective average tax rates (1) (*)		23.0	21.0	21.0			19.5	19.0	19.0	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	5.5	4.4	3.7	4.0		8.6	8.1	8.2	7.9	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)		228.3	203.0				40.9	35.5		
	VAT Gap (% of VAT total tax liability, VTTL)(**)	22.7	21.0	17.8	10.2			9.7	5.4		

(1) Forward-looking effective tax rate (OECD).
(2) A higher value indicates a stronger redistributive impact of taxation.
(*) EU-27 simple average.
(**) Forecast value for 2022, if available. For more details on the VAT gap, see European Commission, Directorate-General for Taxation and Customs Union, 2023, *VAT gap in the EU*, https://data.europa.eu/doi/10.2778/911698.
For more data on tax revenues as well as the methodology applied, see the Data on Taxation webpage, https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en#.
Source: European Commission and OECD

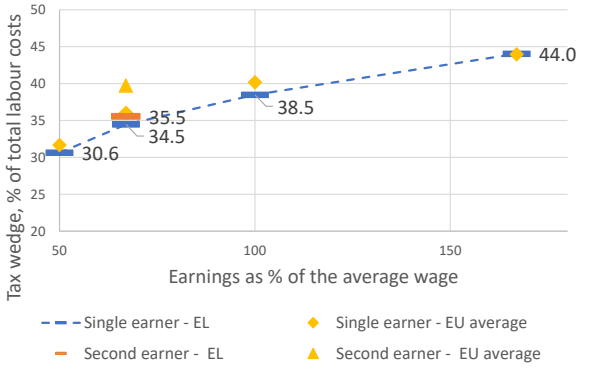
Graph A19.1: **Tax revenues from different tax types, % of total revenue**



Source: European Commission

wide gap of 5.4%. The evolution of the VAT compliance gap in 2021 shows that the improvement of VAT compliance in Greece was rather stable and is linked to a reduction in the VAT burden. The government reduced the VAT rate for a number of goods and services (including hospitality, tourism, and entertainment services) from 24% to 13%. Companies affected strongly by the COVID-19 pandemic were allowed to defer their VAT payments. Similarly, on-time payment rates for VAT continued to improve and amounted to 90.3% of expected due revenues ([137]). However, the rate of audits with adjustment as a percentage of audits completed (88.5%) could indicate under-reporting. In relation to efficient tax collection, gross ICT expenditure increased eightfold between 2019 and 2021 and the rate of returns filed electronically was high for CIT, PIT and VAT ([138]). The Greek administration has developed a strategy for digital transformation and digital culture which is overseen by a senior management governance body and has identified future skills requirements. ([139])

Graph A19.2: **Tax wedge for single and second earners as a % of total labour costs, 2023**



The second earner tax wedge assumes a first earner at 100% of the average wage and no children. For the methodology of the tax wedge for second earners see OECD, 2016, *Taxing Wages 2014-2015*.

Source: European Commission

Greece has made a commitment in its RRP to adopt ambitious measures with a view to making taxes more growth-friendly and improving tax administration and tax collection. In line with this commitment, Greece already as a first step introduced modifications to its tax policy framework in December 2023 that promote electronic payments; strengthen and set new electronic reporting (myDATA) requirements (including for VAT purposes); limit the use of cash in real estate transactions; and complete the linking of cash systems that could further improve tax compliance and combat tax evasion. ([140])

([137])OECD, *Tax Administration 2023, Comparative Information on OECD and other Advanced and Emerging Economies*, data tables available at https://www.oecd-ilibrary.org/taxation/tax-administration-2017/table-a-9-on-time-payment-performance_tax_admin-2017-table67-en

([138])From EUR 1.3 million to EUR 11.1 million, OECD, *Tax Administration 2023, Comparative Information on OECD and other Advanced and Emerging Economies*, data tables available at 0d09309f-en.pdf (oecd-ilibrary.org).

([139])OECD, Forum on Tax Administration, Tax Tech, available at https://www.oecd.org/tax/forum-on-tax-administration/tax-technology-tools-and-digital-solutions/strategy-governance-and-new-skills.htm

([140])See IMF, 2023, selected issues paper *Recent Trend of Informality in Greece*, which finds that the estimated informality had declined by about 14 pps of GDP since 2013.

Table A20.1:**Key economic and financial indicators**

	2004-07	2008-12	2013-20	2021	2022	2023	forecast 2024	forecast 2025
Real GDP (y-o-y)	3.6	-5.5	-0.8	8.4	5.6	2.0	2.2	2.3
Potential growth (y-o-y)	.	-1.0	-1.5	-0.6	0.2	0.6	1.2	1.6
Private consumption (y-o-y)	3.4	-4.3	-0.4	5.8	7.4	1.8	1.7	1.6
Public consumption (y-o-y)	5.1	-3.3	0.3	1.8	2.1	1.7	0.4	0.0
Gross fixed capital formation (y-o-y)	5.8	-17.7	0.4	19.3	11.7	4.0	6.7	8.4
Exports of goods and services (y-o-y)	9.3	-1.9	1.4	24.2	6.2	3.7	4.2	4.0
Imports of goods and services (y-o-y)	8.3	-7.8	3.8	17.9	7.2	2.1	3.8	3.6
Contribution to GDP growth:								
Domestic demand (y-o-y)	4.6	-7.0	-0.2	6.8	7.1	2.1	2.2	2.3
Inventories (y-o-y)	-0.3	-0.7	0.3	0.9	-0.6	-0.7	0.0	0.0
Net exports (y-o-y)	-0.8	2.1	-0.9	0.6	-1.0	0.6	0.0	0.0
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	.	0.9	-0.5	-1.2	-0.7	-0.3	0.0	0.1
Capital accumulation (y-o-y)	.	0.1	-0.4	-0.1	0.0	0.1	0.1	0.3
Total factor productivity (y-o-y)	.	-2.0	-0.6	0.7	0.8	0.8	1.1	1.2
Output gap	1.6	-8.5	-12.1	-6.2	-1.1	0.3	1.2	2.0
Unemployment rate	9.7	14.7	21.8	14.7	12.5	11.1	10.3	9.7
GDP deflator (y-o-y)	3.1	1.5	-0.5	1.5	7.8	4.5	3.0	2.2
Harmonised index of consumer prices (HICP, y-o-y)	3.2	2.9	-0.2	0.6	9.3	4.2	2.8	2.1
HICP excluding energy and unprocessed food (y-o-y)	3.2	2.0	0.0	-0.7	5.7	6.2	3.1	2.2
Nominal compensation per employee (y-o-y)	5.1	-0.9	-1.7	3.8	2.8	5.5	4.3	2.7
Labour productivity (real, hours worked, y-o-y)	1.7	-3.5	0.2	0.0	1.6	0.3	0.8	1.4
Unit labour costs (ULC, whole economy, y-o-y)	3.1	2.8	0.1	-3.1	-0.2	4.5	3.0	1.0
Real unit labour costs (y-o-y)	0.0	1.3	0.6	-4.5	-7.5	0.0	0.0	-1.2
Real effective exchange rate (ULC, y-o-y)	1.4	0.6	-1.5	-3.2	-3.9	-2.3	-1.6	-1.4
Real effective exchange rate (HICP, y-o-y)	0.8	0.2	-0.5	-1.3	-0.3	-0.5	.	.
Net savings rate of households (net saving as percentage of net disposable income)	-0.7	-6.8	-11.5	-3.2	.	.	.	.
Private credit flow, consolidated (% of GDP)	14.4	1.8	-0.8	0.8	1.1	2.0	.	.
Private sector debt, consolidated (% of GDP)	88.7	125.7	123.8	122.4	101.1	96.4	.	.
of which household debt, consolidated (% of GDP)	38.1	59.2	60.2	55.7	45.3	41.8	.	.
of which non-financial corporate debt, consolidated (% of GDP)	50.6	66.5	63.6	66.7	55.8	54.6	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (1)	.	9.1	34.7	7.1	5.0	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	5.1	7.2	4.0	0.9	-1.6	0.3	0.8	0.9
Corporations, gross operating surplus (% of GDP)	19.0	18.0	16.2	16.9	19.7	19.4	19.2	19.4
Households, net lending (+) or net borrowing (-) (% of GDP)	-7.9	-4.7	-3.0	1.2	-4.1	-3.0	-3.1	-2.4
Deflated house price index (y-o-y)	4.6	-6.5	0.3	6.5	5.2	8.4	.	.
Residential investment (% of GDP)	9.9	5.6	0.8	1.3	1.6	1.9	.	.
Current account balance (% of GDP), balance of payments	-10.8	-10.0	-2.3	-6.8	-10.3	-6.3	-5.7	-5.3
Trade balance (% of GDP), balance of payments	-9.1	-7.2	-1.9	-7.6	-9.8	-4.8	.	.
Terms of trade of goods and services (y-o-y)	-0.1	-0.3	0.4	-1.0	0.2	6.3	0.1	0.4
Capital account balance (% of GDP)	1.4	1.2	0.8	2.2	1.5	1.2	.	.
Net international investment position (% of GDP)	-79.7	-94.2	-146.9	-173.0	-143.5	-140.5	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (2)	.	-96.2	-134.2	-151.1	-119.8	-112.9	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (2)	.	189.9	249.1	305.8	262.8	248.8	.	.
Export performance vs. advanced countries (% change over 5 years)	.	.	-6.7	13.0	16.5	6.3	.	.
Export market share, goods and services (y-o-y)	0.9	-5.9	-1.8	19.3	8.9	2.6	0.7	0.3
Net FDI flows (% of GDP)	0.1	-0.1	-1.3	-2.4	-2.4	-0.6	.	.
General government balance (% of GDP)	-6.9	-11.3	-2.4	-7.0	-2.5	-1.6	-1.2	-0.8
Structural budget balance (% of GDP)	.	.	4.0	-4.6	-2.5	-1.5	-1.7	-1.8
General government gross debt (% of GDP)	104.2	144.2	184.4	195.0	172.7	161.9	153.9	149.3

(1) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(2) NIIP excluding direct investment and portfolio equity shares.
Source: Eurostat and ECB as of 2024-5-17, where available; European Commission for forecast figures (Spring forecast 2024).

This annex assesses fiscal sustainability risks for Greece over the short, medium and long term. It follows the multi-dimensional approach of the European Commission's 2023 Debt Sustainability Monitor, updated based on the Commission 2024 spring forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not point to any major short-term fiscal risks (Table A21.2) ([141]). Government gross financing needs are expected to decrease to around 8½ % of GDP on average over 2024-2025 (Table A21.1, Table 1). The sovereign credit rating has been steadily improving and has returned to investment grade at three of the four major rating agencies by the cut-off date of this report.

2 – Medium-term fiscal sustainability risks appear high.

The DSA baseline shows that the government debt ratio is expected to decline but remains at a high level in the medium term (at around 119% of GDP in 2034) (Graph 1, Table 1) ([142]). The debt reduction is supported by the assumed structural primary surplus of 1.7% of GDP (excluding changes in cost of ageing) as of 2024. Compared to historical data running from 1980, this may appear fairly ambitious. Indeed, less than one fourth of past fiscal positions were more stringent than the one assumed in the baseline. (Table A21.2) ([143]). However, compared with more relevant recent performance, maintaining such a SPB seems plausible (as the average SPB computed over the last 15 years reaches a surplus of 3.6% of GDP). The debt decline also benefits from a still favourable but declining snowball effect of around -0.6% of GDP annually on average over 2025-2034, which is also supported by the impact of Next Generation EU. On the other hand, stock-flow adjustments should slightly mitigate the projected debt reduction over the period 2025--2034 (-0.5 pps. on average per year), due to the effect of deferred interests until 2032 ([144]).

The baseline projections are stress-tested against four alternative deterministic scenarios to assess the impact of changes in key assumptions relative to the baseline (Graph 1). Under the *historical structural primary balance (SPB) scenario* (i.e. the SPB returns to its historical 15-year average) the debt ratio would be lower than under the baseline by 15.7 pps. in 2034. However, under the *adverse interest-growth rate differential scenario* (i.e. the interest-growth rate differential deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by 9.6 pps. in 2034. Under the *financial stress scenario* (i.e. interest rates temporarily increase by 5.3 pps. compared with the baseline) the government debt ratio would be

([141])The S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be a good predictor of emerging fiscal stress in the past.

([142])The assumptions underlying the Commission's 'no-fiscal policy change' baseline include in particular: (i) a structural primary surplus, before changes in ageing costs, of 1.7% of GDP from 2024 onwards; (ii) inflation converging linearly towards the 10-year forward inflation-linked swap rate 10 years ahead (which refers to the 10-year inflation expectations 10 years ahead); (iii) the nominal short- and long-term interest rates on new and rolled over debt converging linearly from current values to market-based forward nominal rates by T+10; (iv) real GDP growth rates from the Commission 2024 spring forecast, followed by the EPC/OGWG 'T+10 methodology projections between T+3 and T+10 (average of 0.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For information on the methodology, see the 2023 Debt Sustainability Monitor see the 2023 Debt Sustainability Monitor (European Commission, Institutional Paper 271, March 2024).

([143])This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past. Technically, this consists in looking at the percentile rank of the projected SPB within the distribution of SPBs observed in the past in the country, taking into account all available data from 1980 to 2023.

([144])The discussion among statistical authorities related to the statistical treatment of the deferred interest on the EFSF loan is ongoing. As part of the debt relief measures granted in 2012 and extended in 2018, Greece's interest payments on part of its EFSF loan are deferred, and Greece is expected to start repaying these amounts as of 2033. The deferred amounts have been recorded as accrued interest expenditure, and hence deteriorate the budget balance, but the resulting liability has not been recorded as part of the Maastricht debt. In co-operation with Member States, Eurostat is reviewing the statistical recording of deferred interest on EFSF loans, for EDP purposes. If the statistical authorities decide to include these amounts into the Maastricht debt, debt figures could be revised upwards. Importantly, such a decision does not affect the assessment of Greece's debt sustainability or its financing needs, as the amounts to be actually repaid are the same.

higher by around 3.0 pps. in 2034. Finally, under the *lower structural primary balance scenario* (i.e. the projected cumulative deterioration in the SPB between 2023 and -2024 is increased by 50%) the debt ratio would be higher than under the baseline by 0.9 pps. in 2034.

The stochastic projections indicate medium risk, pointing to the moderate sensitivity of these projections to plausible unforeseen events ([145]). These stochastic simulations indicate a 15% probability that the debt ratio will be higher in 2028 than in 2023, implying medium risks given the high debt level. In addition, the uncertainty surrounding the baseline debt projections (as measured by the difference between the 10th and 90th debt distribution percentiles) is high, reaching around 56% of GDP in five years' time (Graph 2).

3 – Long-term fiscal sustainability risks appear overall low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort to stabilise debt (S2 indicator) and bring to 60% of GDP (S1 indicator) over the long term ([146]). This assessment is driven by the favourable initial budgetary position and projected decline in ageing costs. Hence, these results are conditional on the country maintaining a sizeable SPB over the long term, and duly implementing legislated pension reforms.

The S2 indicator points to low fiscal sustainability risks. The indicator shows that, relative to the baseline, the SPB would not need to improve to ensure debt stabilisation over the long term. This result is underpinned by a favourable initial budgetary position (-0.9 pps.) and the projected decline in ageing-related costs (contribution of -0.6 pps.)-. Ageing costs' developments are primarily driven by both a projected decrease in public pension expenditure (-1.0 pp.) and a decrease in education spending, which is only partly offset by a projected increase in health-care spending (0.7 pps.) (Table , Table 2).

The S1 indicator points to low fiscal sustainability risks. The indicator shows that the country does need to further improve its fiscal position to reduce its debt to 60% of GDP by 2070. This result is mainly driven by the favourable initial budgetary position (contribution of -1.6 pps.). However, this effect is offset by the current distance of the Greek government debt ratio from the 60% reference value, which partially reduces the fiscal room for manoeuvre (1.9 pps.) (Table , Table 2).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the recent increase in interest rates, and to the state guarantees granted recently. Contingent liability risks continue to stem from the non-performing loans in the banking sector (although the share of non-performing loans witnessed a sharp reduction in the previous years, it remains at the highest level in the EU), and pending legal cases against the state with potential budgetary implications also pose fiscal risks. On the other hand, risk-mitigating factors are related to the structure of the debt. In particular, the major share of debt is still held by official lenders at low interest rates and has a particularly long maturity structure compared with peer countries. Moreover, the fact that public debt is completely denominated in euro, excludes currency risks.

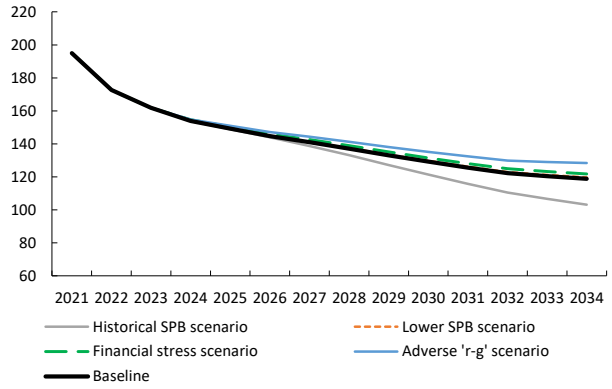
([145]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([146]) The S2 fiscal sustainability indicator measures the permanent SPB adjustment in 2025 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the permanent SPB adjustment in 2025 to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both the S1 and S2 indicators, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See the 2023 Debt Sustainability Monitor for further details.

Table A21.1:**Debt Sustainability Analysis – Greece**

Table 1. Baseline debt projections	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Gross debt ratio (% of GDP)	**195.0**	**172.7**	**161.9**	**153.9**	**149.3**	**144.6**	**141.0**	**137.1**	**133.1**	**129.2**	**125.6**	**122.2**	**120.4**	**118.8**
Changes in the ratio	-12.0	-22.3	-10.8	-8.1	-4.6	-4.6	-3.7	-3.8	-4.1	-3.9	-3.6	-3.4	-1.9	-1.6
of which														
Primary deficit	4.5	0.0	-1.9	-2.3	-2.9	-2.7	-2.6	-2.5	-2.5	-2.4	-2.3	-2.2	-2.0	-1.9
Snowball effect	-16.3	-21.2	-7.3	-4.7	-3.2	-1.1	-0.2	-0.4	-0.6	-0.4	-0.2	-0.1	0.0	0.1
Stock-flow adjustments	-0.2	-1.1	-1.6	-1.1	1.5	-0.8	-0.9	-1.0	-1.0	-1.0	-1.1	-1.1	0.2	0.2
Gross financing needs (% of GDP)	19.4	13.8	12.1	7.9	9.4	10.2	9.7	11.3	10.7	11.2	12.8	11.8	16.3	14.4

Graph 1. Deterministic debt projections



Graph 2. Stochastic debt projections 2024-2028

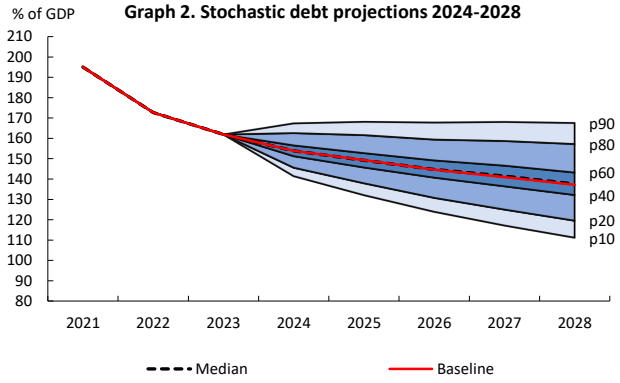


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

		S1	**S2**
Overall index (pps. of GDP)		**0.4**	**-1.5**
of which			
Initial budgetary position		-1.6	-0.9
Debt requirement		1.9	
Ageing costs		0.2	-0.6
of which	*Pensions*	-0.2	-1.0
	Health care	0.7	0.7
	Long-term care	0.0	0.0
	Education	-0.2	-0.3

Source: Commission services

Table A21.2:**Heat map of fiscal sustainability risks – Greece**

Short term	**Medium term - Debt sustainability analysis (DSA)**								**Long term**		
			Deterministic scenarios								
Overall (S0)	**Overall**		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	**Stochastic projections**	**S2**	**S1**	**Overall (S1 + S2)**
LOW	**HIGH**	Overall	**HIGH**	**HIGH**	**HIGH**	**HIGH**	**HIGH**	**MEDIUM**	**LOW**	**LOW**	**LOW**
		Debt level (2034), % GDP	118.8	103.1	119.7	128.3	121.8				
		Debt peak year	2024	2024	2024	2024	2024				
		Fiscal consolidation space	23%	21%	24%	23%	23%				
		Probability of debt ratio exceeding in 2028 its 2023 level						15%			
		Difference between 90th and 10th percentiles (pps. GDP)						56.4			

(1) Debt level in 2034. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2028 its 2023 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty. (For further details on the Commission's multidimensional approach, see the 2023 Debt Sustainability Monitor)

Source: Commission services