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2024 Country Report - Romania

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

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European Commission

Romania

2024 Country Report

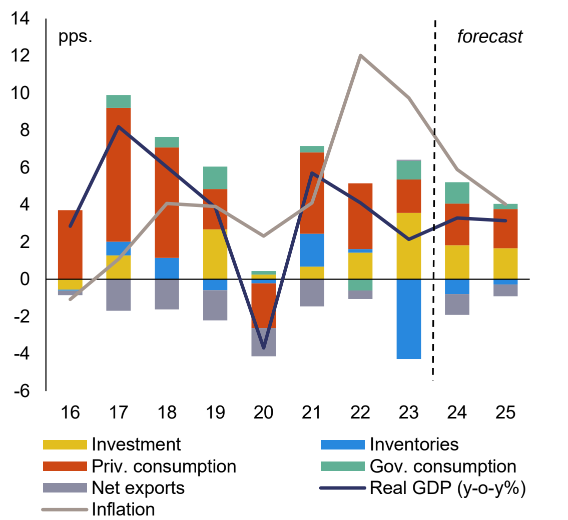
ECONOMIC AND EMPLOYMENT SNAPSHOT

Romania's economy has slowed amid fiscal and macroeconomic vulnerabilities

Romania's real GDP growth declined to 2.1% in 2023, after strong growth of 4.1% in 2022. ([1]) Tight financial conditions, relatively slow disinflation and weak growth in private credit all combined to constrain growth in both real disposable incomes and domestic demand. In addition, weak external demand took a toll on manufacturing output (see Annex 23). Nevertheless, Romania's labour market remained tight, and growth in real wages picked up as inflation declined in the second half of 2023. A strong increase in EU-funded investment in public infrastructure starting in 2022 compensated for a slowdown in private consumption and exports (see Graph 1.1). The current account deficit declined to about 7% of GDP in 2023, reflecting both the slowdown in domestic demand, and more favourable terms of trade. Nevertheless, the current account deficit remains large and is being fuelled by high government deficits, as also discussed in the 2024 Romania's in-depth review under the macroeconomic imbalance procedure (MIP) ([2]).

Growth is expected to accelerate in the coming years, thanks to strong domestic demand. Real GDP growth in Romania is projected to increase to around 3% in 2024 and 2025, supported by higher real disposable income and thus private consumption. These increases in real disposable income will likely be driven by public-sector spending and large increases in wages and pensions. Investment in the coming years is forecast to remain resilient on account of a still-supportive fiscal stance and robust support from EU funds, including the Recovery and Resilience Facility (RRF) and the Cohesion Policy Funds. The current account deficit in 2024 and 2025 is expected to remain at a broadly similar high level as in 2023.

Graph 1.1: **Inflation – Real GDP growth and contributions**



Source: European Commission

Inflation has declined but remains high. Monetary policy tightening, weaker economic activity and a fall in energy prices caused headline inflation (as measured by HICP) to fall to a 12-month average of 9.8% in 2023 after reaching 12% in 2022 (see Graph 1.1). Nevertheless, core inflation (inflation excluding prices for energy, food, alcohol and tobacco) was still slightly above 10% at the end of 2023, partly reflecting rapid wage increases, especially in the private sector, and a strong contribution from energy-intensive industrial goods. Although price growth is set to slow further to around 4% in 2025, upside risks to inflation remain if salaries and pensions continue to increase rapidly.

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

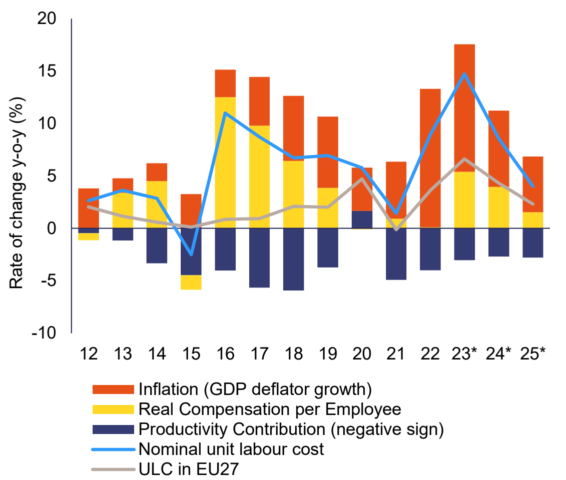
([2]) SWD(2024) 83.

Romania continues to experience vulnerabilities related to its high current account and fiscal deficits. Earlier in 2024, the Commission conducted an in-depth review of the Romanian economy under the MIP. The in-depth review found that Romania's external deficit had increased gradually over the last decade, becoming substantial in recent years driven by large general government deficits. With strong price dynamics, the Commission is concerned about high growth in wages that could undermine cost competitiveness. Although 2023 saw a slight correction of the current account deficit, the persistence of high government deficits under current policies may push up external indebtedness and make Romania more reliant on external financing sources. This would leave the country vulnerable to changes in investor sentiment and external shocks.

Labour market activity has improved further, although significant challenges remain. The employment rate of people aged 20-64 years increased to 68.7% in 2023, but remains one of the lowest in the EU. The gender and disability employment gaps are very wide in Romania, well above the respective EU averages. In addition, the low-skilled continue to face challenges, with an employment rate of 44.9% in 2022. This was far below the EU average (57.2%) and significantly lower than the employment rate for people in Romania with tertiary education (89.5%) (see Annex 14). The unemployment rate decreased in 2023 and set to stabilise at around 5.5%, which is below the EU average. The youth unemployment rate also decreased in 2023 to 21.8%, but remains high above the EU average (14.5%). The rate of young people not in education, employment or training (NEETs) is among the highest in the EU (19.3%) in 2023, despite some improvement.

Growth in nominal wages picked up in 2023, rising above the rates of inflation and labour productivity growth. Although average real wages remained almost flat in 2022, nominal compensation per employee has grown by around 18% in 2023. This corresponds to about 8% growth in real terms, which is in excess of labour productivity growth (see Graph 1.2). Romania's statutory minimum wage is the second lowest in the EU, and the country's in-work at-risk-of-poverty rate was the highest in the EU in 2022. Nevertheless the minimum gross salary increased twice in short succession in 2023, rising by a cumulative 29.4% over the full year. At the end of 2023, the minimum-wage-to-median-wage ratio had increased to around 58%, which is broadly in line with one of the main examples of indicative reference values in the Directive on Adequate Minimum Wages in the EU. At the same time, these high wage increases may also negatively impact both the already low employment rate of low-skilled workers and external cost competitiveness [3]. The increase in public wages accelerated in 2023 and continued in 2024. Overall wage growth is expected to remain elevated in 2024, compensating for the still-high inflation rate.

Graph 1.2: **Breakdown of rate of change of unit labour costs**



Source: European Commission

Romania's productivity is approaching the EU average, but stark regional disparities remain. Romania has been on a steep convergence path to EU levels in productivity over the last two decades, reaching 78% of the EU average in terms of gross value added per worker in 2021. Nevertheless, regional disparities are high, ranging from 146% of the

[3] Romania's in-depth review highlights the emergence of potential issues related to external cost competitiveness due to large increases in wages and prices.

EU average in the Bucharest-Ilfov capital region to 45% in Nord-Est region (see Annex 17). Strong investment has been a major contributing factor to productivity growth, driven by net public investment in recent years supported by EU funds.

Several issues continue to hamper competitiveness. Although progress has been made in recent years, Romania performs worse than its EU peers for government effectiveness and certain aspects of the functioning of judiciary, the negative impacts of which are felt especially in the business environment (see IMD's World Competitiveness Index and the World Bank's Worldwide Governance Indicators). Other problems include: (i) the volatile tax and regulatory environment holding back investment; (ii) continued restrictions on access to some regulated professions; and (iii) insufficient competition in public procurement, which hampers the efficient allocation of resources. Access to finance is still limited for SMEs, while bank credit to the private sector remains among the most expensive in Europe (see Annex 18). Administrative capacity, especially at local and regional level, needs to be further strengthened, which would also benefit the implementation of the RRP and cohesion policy. Other bottlenecks to investment include: (i) large gaps in transport infrastructure (despite a recent acceleration in civil engineering works); (ii) a shortage of skilled and non-skilled workers; (iii) the low level of digitalisation; and (iv) low levels of IT skills within the entire population.

Box 1: **Romania's competitiveness in brief**

Against the backdrop of the EU's long-term competitiveness strategy ([4]), Romania performs relatively well in the areas of public investment, access to public financial support, and conformity with single-market directives. The Romanian RRP aims at tackling several challenges related to the business environment through simplification and digitalisation of regulatory requirements and more effective public administration and procurement. The RRP also targets: (i) a better-functioning judiciary; (ii) control of corruption; (iii) improvements in basic transport infrastructure; (iv) the monitoring of state-owned enterprises; and (v) energy efficiency in complementarity with cohesion policy funding. However, competitiveness challenges remain:

- **Competitiveness and the business environment:** In particular, Romania faces challenges in: (i) access to finance; (ii) low degree of digitalisation and insufficient competencies in public administration; (iii), regulatory restrictions in some professions; and (iv) low levels of investment in research and innovation, in part due to weak science-industry collaboration.
- **Education and skills:** In particular, Romania suffers from: (i) low levels of basic skills and high inequalities in education; (ii) few top-performing students in mathematics, reading and sciences - as shown by the PISA tests; (iii) low rates of participation in tertiary education; (iv) a high prevalence of early school leaving; (v) poor school infrastructure; and (vi) a lack of teaching staff with the right qualifications, especially in rural areas. Low levels of participation in adult learning remain a challenge to a labour market already struggling with skills shortages.
- **Clean energy and decarbonisation**: Romania faces challenges to reduce its reliance on fossil fuels, in particular natural gas. Limited investments into the electricity grid are a significant bottleneck to scaling up renewables.

([4]) The long-term competitiveness strategy, outlined in the Commission Communication of March 2023, identifies nine drivers: 1. A functioning single market; 2. Access to private capital and investment; 3. Public investment and infrastructure; 4. Research and innovation; 5. Energy; 6. Circularity; 7. Digitalisation; 8. Education and skills; and 9. Trade and open strategic autonomy.

The shortage of skilled labour, which hampers competitiveness, is linked to large migration outflows over the last two decades, low labour-market participation, and structural issues related to education and training. The transition to a higher value added, digital and green economy requires more skilled workers across economic sectors. Activity rates are low, and employers consistently report difficulties in filling positions. In addition, Romania is impacted by negative demographics, as working-age and skilled and non-skilled workers continue to emigrate. Projections [5] show that Romania will have one of the largest declines in population between now and 2070 of all EU countries. Romania continues to face challenges related to both the quality of education and access to education. These challenges persist despite some progress in recent years thanks to better funding, salary increases for teachers, and a new education law. Romania's poor PISA scores, high rates of low achievement in basic skills, and low shares of top-performing students may be the result of several factors including: (i) the underfunding of the sector; (ii) the strong impact of socioeconomic factors on performance; and (iii) challenges linked to the teaching profession (see Annex 15). In addition, the insufficient labour-market relevance of vocational education and training (VET) and of higher education leads to greater skills shortages and skills mismatches. Tertiary educational attainment (for those aged 25-34) stood at 22.5% in 2023 one of the lowest in the EU, with little improvement over the past decade. Tertiary education attainment remains constrained due to: (i) high rates of early school leaving; (ii) socioeconomic factors; (iii) low passing-rates in the baccalaureate exams; and (iv) high drop-out rates from tertiary education. Romania has seen a considerable increase in the rate of adults participating in learning every year, with this rate rising from 5.8% in 2016 to 19.1% in 2022 [6], but it remains far below the EU average. Further improvement of education, skills, as well as boosting up-skilling and re-skilling measures, are key to building-up human capital, increasing competitiveness and fostering social inclusion (see Annex 14).

Romania needs to make greater efforts to deliver on the European Pillar of Social Rights and foster upward social convergence. Despite some improvement, Romania continues to experience some of the highest poverty risks (including for children) and levels of inequality in Europe. This is coupled with inadequate access to – and affordability of – social services, health services, and long-term care services (see Annex 14). Romania's education and training systems face persistent challenges in relation to quality, inclusiveness, including the need for enhanced skills development, as well as high NEET rates and high rates of early school leaving. Despite progress in some areas, challenges remain to ensure a fair and well-functioning labour market and welfare system. The effectiveness of active labour market policies remains a concern in the face of demographic decline.

Romania continues to face digitalisation challenges, as captured by the Digital Economy and Society Index (DESI). Romania remains behind in the DESI index [7], the EU's monitoring tool for the digital transformation. However, the country continues to perform well on fixed connectivity, scoring significantly above the EU average. Despite expected progress in 5G deployment due to several measures under the RRP, including a spectrum auction and a new network-security law, the roll-out of 5G is expected to be slow due to various factors including a lack of market demand. Digitalisation of public services (such as cloud, e-government services and telemedicine) remains low despite recently adopted measures under the RRP and cohesion policy. Finally, Romanian SMEs need to adopt e-commerce/e-invoicing and make greater use

(5) See the '2024 Ageing Report', Institutional Paper 257, European Economy, European Commission, DG ECFIN.

(6) Eurostat data (Adult Education Survey, special calculation excluding guided on-the-job training as available in the public excel file).

(7) Digital Economy and Society Index, European Commission, 2024.

of AI and more advanced digital technologies (see Annex 10).

Romania has made progress in the green transition. However, more action is needed to make the economy less reliant on fossil fuels. To reach the 2030 EU effort-sharing target, it is crucial for Romania to reduce greenhouse gas emissions from road transport and industry. Moreover, the insurance against potential losses from climate hazards needs to increase (see Annex 6). Challenges also remain in tackling: (i) energy poverty; (ii) labour and skills shortages in energy-intensive sectors; (iii) environmental inequalities; and (iv) air pollution (see Annexes 7 and 8).

Romania is one of the EU countries that is most resilient to supply chain disruptions. However, there is an urgent need to reduce the country's material footprint by stepping up recycling rates. Higher resource efficiency will reduce costs and improve the economy's sustainability. At this point in time, Romania remains at risk of missing both the 2025 target for municipal waste recycling and the 2035 target for landfilling (see Annex 9).

Box 2: **UN Sustainable Development Goals (SDGs)**

Romania has improved its performance on several SDG indicators, but its overall performance remains below the EU average. The country has progressed especially on indicators related to environmental sustainability (SDGs 2, 6, 11, 12, 13, 14, 15). It has also improved on all SDGs related to macroeconomic stability (SDGs 8, 16, 17). Despite progress, Romania continues to lag behind the EU average for SDGs related to education (SDG 4), poverty (SDG1) and decent work and economic growth (SDG 8) (see Annex 1).

Of the 17 indicators, Romania remains below the EU average on 14. Among these, Romania has been moving away from the EU average on SDG indicators related to gender equality (SDG 5), affordable and clean energy (SDG 7) and industry, innovation and infrastructure (SDG 9).

IMPLEMENTATION OF KEY REFORMS AND INVESTMENTS USING EU INSTRUMENTS

RRF and cohesion-policy funding are mutually reinforcing Romania's efforts to boost its competitiveness and foster sustainable growth. Combined ongoing support from RRF and cohesion-policy funding over the 7-year period from 2021-2027 represents around 18.33% of the country's 2023 GDP, compared to the EU average of 5.38% of GDP ([8]) (Annex 4).

Under its RRP, Romania has launched important policy measures that are expected to improve the country's competitiveness. In particular, the RRP contains plans for major reforms in the areas of: healthcare; social care; education; corporate governance of state-owned enterprises; research and innovation; labour markets; pension systems; waste management; water management; and renewable energy sources. Romania has also started making substantial investments in: (i) the energy renovation of buildings; (ii) the green and digital transition of the tourism industry; and (iii) reducing the administrative burden for businesses.

The implementation of Romania's recovery and resilience plan is significantly delayed due to substantial challenges. Romania has submitted three payment requests, corresponding to 146 milestones and targets in the plan and resulting in an overall disbursement of EUR 9.4 billion on 29 September 2023 (see Annex 3). Structural challenges linked to limited administrative capacity and often the lack of involvement of other entities governing on various institutions, and different stakeholder in general call for specific actions to ensure that reforms and investments can be completed on time. Investments, in particular, are highly concentrated towards the end of the RRP implementation and merit special attention.

Cohesion-policy funding helps tackle Romania's growth and competitiveness challenges and is aimed at reducing the country's territorial and social disparities. During the 2014-2020 cohesion-programming period, support focused on: research and innovation; water and sanitation; energy efficiency; job creation; health and social services; and education and skills. For the current 2021-2027 programming period, further support is aimed at helping Romania's: competitiveness; green transition; social cohesion; and living and working conditions (see Annex 4).

Promoting private-sector competitiveness and improving the business environment

As part of the RRF, Romania has advanced the implementation of investments to support the private sector and SMEs in particular. The government has launched several financial instruments, including: (i) portfolio guarantees to small and medium-sized firms; (ii) equity support for SMEs, including start-ups and midcaps; (iii) loans for large companies for climate and digital objectives; and (iv) guarantees to promote energy efficiency in the residential buildings sector. Romania also launched a call for support for Important Projects of Common European Interest in semiconductors, and took initial steps to implement an aid scheme for the digitalisation of SMEs.

([8]) 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.

Cohesion policy will further support Romania's private-sector competitiveness. For instance, the European Regional Development Fund (ERDF) and the Cohesion Fund will boost innovation and digitalisation by supporting more than 20 000 companies and digitalising more than 400 public institutions. The European Social Fund+ (ESF+) is supporting the implementation of upskilling and reskilling actions, such as the 'Keep Up' programme, which will provide training for employees on the latest technological developments. Additionally, the Just Transition Fund (JTF) will support more than 5 800 Romanian businesses, helping economic diversification and job creation in the six counties most affected by the transition towards a climate-neutral economy.

Romania has also made progress in key reforms to reduce regulatory burden in the business environment and to reduce the size of the shadow economy. As part of the RRF, Romania has made mandatory the enrolment of legal person taxpayers in its online tax system, Virtual Private Space. It has also made operational a joint action plan between the National Agency for Fiscal Administration and the Labour Inspectorate, which will help prevent and limit unregistered work.

Unlocking investments for the green and digital transitions

The adoption of Romania's Decarbonisation Law marks a significant step in its energy transition. Under this legal framework, 3.78 GW of lignite or coal-based power plants will be decommissioned by the end of the RRF in 2026, and in total 4.9 GW will be phased out by 2032. The Just Transition Programme will help alleviate the impact of the coal phase-out in the most affected areas of the country. The RRP includes measures for: (i) investments of at least 300 MW in efficient, combined-heat-and-power generation; (ii) investments of at least 970 MW in additional solar and wind capacities; and (iii) vouchers to be given to households to help them with the installation of solar panels and batteries for electricity storage. Cohesion-policy programmes will fund additional capacity of over 300 MW from renewable sources, mostly in Just Transition territories.

The RRF and cohesion-policy support measures to boost the energy efficiency of buildings. Romania has put in place the Renovation Wave fund under the RRP to accelerate energy-efficiency renovations, including also seismic consolidation, to renovate at least 3.2 million m^2 of residential buildings and 2.2 million m^2 of public buildings. In addition to these Renovation Wave funds, the cohesion-policy programmes will make possible the renovation of a further 1.5 million m^2 of public buildings, and a further 59 000 private dwellings will see an improvement in their energy performance. Under the REPowerEU chapter, Romania will also: (i) introduce 'one-stop shops' to inform and assist citizens about energy-efficiency renovations; and (ii) introduce a voucher scheme for the renovation of single-family dwellings.

Romania has taken steps through both the RRF and cohesion policy to green the transport sector. Ongoing investments in sustainable transport from the RRF should support an increase in the use of clean public transport. Support for the modernisation and renewal of railway infrastructure and the development of the underground transport network will be particularly helpful in this regard. This will contribute to reduce air pollution, CO_2 emissions and congestion. These measures will be complemented by further investments in greening the transport sector from cohesion-policy funding.

Significant support is provided under the RRF and cohesion-policy programmes to the environment. Romania benefits from funding from the RRF and cohesion policy for waste management, water management, as well as forests and biodiversity. Romania has also adopted a circular-economy strategy and a circular-economy action plan that will help the country move away from landfilling. Reforms and investments in the water sector will ensure greater access to water and sanitation.

Both the RRF and cohesion-policy programmes have supported the digital transition in Romania, including digitalisation of the public administration. As part of the RRP, Romania adopted laws in 2022 to develop a government cloud infrastructure that will enable all public entities to manage data in a secure and interoperable environment, in line with the European Interoperability Framework. Furthermore, the Romanian RRP contributes to the country's transition to the EU's 2025 connectivity targets through the development of 5G networks. After adopting a law on 5G security in 2021, Romania launched selection procedures in 2022 to grant 5G licences. Together, these reforms provide the necessary foundations for complementary investments that should facilitate the digital transition, including that of the Romanian public administration.

Investing in people for economic and social resilience

Making effective use of various funding sources, Romania has taken steps to address challenges in its education and training systems. The country has focused on improving access to early childhood education and care, reducing early school leaving, and supporting socio-economically disadvantaged groups. Further actions were implemented in 2022 and 2023 to: (i) develop dual education aligned with the needs of the jobs market; and (ii) ensure quality standards in schools through the provision of school and IT equipment. Romania's implementation of the ESF+ 'Education and Employment' programme is progressing, with projects such as: (i) supporting the labour-market relevance of education and training; (ii) apprenticeships and traineeships; (iii) socioeconomic support measures to encourage disadvantaged groups to participate in general and higher education and (iv) upskilling and reskilling programmes for employees to face rapid technological changes.

Different EU programmes include measures to improve access to healthcare, improve the effectiveness of healthcare, and encourage Romanians to take preventive actions to stay healthy. Life expectancy in Romania is among the lowest in the EU, while spending on health as a share of GDP is also low. The development of pre-hospital infrastructure like doctors' practices is crucial to reduce the number of unmet medical needs in the country (see Annex 16). Under an RRP reform, the Romanian government has drafted sectoral action plans to improve the working conditions of medical staff and make medical work more attractive, especially in rural areas. Cohesion-policy programmes and the RRP aim to invest in: health infrastructure; health equipment; the digitalisation of healthcare; and improved access to basic services for people in disadvantaged and marginalised areas.

Romania has approved a set of legislative changes to improve social cohesion. Under RRP reforms, Romania adopted guides for the deinstitutionalisation of people with disabilities and the prevention of institutionalisation. The government has also agreed on a national long-term care strategy. The implementation of the minimum inclusion income has started aiming to help the most vulnerable people out of poverty and with finding a job. As a complement to those reforms, EU-funded programmes for 2021-2027 aim to improve access to social, health, education and employment services, with a focus on vulnerable groups. The programmes will target the delivery of integrated services in these areas to 2 000 disadvantaged rural or marginalised communities. In addition, the RRP includes plans for legislation on preventing the separation of children from their families. Implementation of the European Child Guarantee is ongoing, largely supported by the ESF+.

Through the Cohesion Policy Funds, 900 000 people have been connected to water supply and sanitation from 2014 until end of 2023. The RRF also helped to support vulnerable households in Romania by setting up the 'First Connection to Water and Sanitation' programme, which aims to help people on low incomes to pay the costs required to get a connection to a clean water supply and sewerage system.

Box 3: **Combined action for more impactful EU funds**

To boost economic growth and maximise the impact of EU funding, Romania's RRP includes reforms that support investments under other EU instruments. This creates important synergies and complementarities between the various funds. For example, the RRP contains a reform to create a new legal framework to prevent the separation of children from their families. This reform will support investments planned under the ESF+ and the ERDF's social inclusion and dignity operational programme (PoIDS). The RRP includes a reform to implement measures (such as counselling and support for parents and children; day centres for children at risk of separation from their parents; and day centres for children with disabilities) to effectively prevent the separation of children from their families and support the family in caring for children at risk of separation. In turn, the PoIDS measures complement this framework by supporting infrastructure and services in daycare centres for children with problematic behaviour as well as multi-functional sports and cultural facilities. The PoIDS will also provide training for professionals working with children; counselling for children and families; and support for daily activities, including material support.

FURTHER PRIORITIES AHEAD

Romania faces additional challenges related to macroeconomic vulnerabilities, competitiveness, labour/skills shortages, and decarbonisation. Tackling these challenges will help increase Romania's long-term competitiveness and ensure the resilience of its economy. It will also help the country to make further progress in achieving the SDGs.

It is important for Romania to address the identified challenges at both the national and regional level to reduce regional disparities and improve administrative and investment capacity in a balanced way across the country. The RRP provides an important opportunity to advance measures to tackle informality in the economy and social inequality.

Romania would benefit from a credible and sustained fiscal consolidation

High fiscal deficits supporting domestic demand result in external vulnerabilities. Despite some improvements in the current account deficit in 2023, vulnerabilities remain high. These vulnerabilities are chiefly due to the high and persistent fiscal deficit, as well as concerns over the large recent increase in wages, which could undermine cost competitiveness. Due to its large fiscal deficit, Romania is currently under an excessive deficit procedure (EDP). Macroeconomic vulnerabilities linked to the country's high and persistent external deficit have been identified by the Commission through the macroeconomic imbalance procedure .

Progress with fiscal consolidation would both alleviate in vulnerabilities and support RRP goals. The most efficient way to tackle Romania's domestic and external vulnerabilities would be to engage on a credible and sustained multiannual path of fiscal consolidation. This would avoid putting excessive burden on other macro policy instruments, including monetary policy. Fiscal adjustment should ideally combine further streamlining of government expenditure through spending reviews, and would benefit from an increase in government revenue. It will also be important for tax and expenditure policies to become more predictable. Romania's tax revenues are low across all major revenue sources in relation to the country's GDP, and are well below the levels in other countries at a similar level of development. Romania's RRP includes foresees: (i) an ambitious reform of the tax regime for microenterprises; (ii) a broad tax reform; and (iii) measures to strengthen the tax administration. The objective of these tax measures is to increase the revenue-to-GDP ratio by 2.5 percentage points by the end of 2025 and decrease the VAT gap by 5 percentage points by mid-2026 compared with 2019. If properly designed, these measures could lead to a fairer and more efficient tax system supporting growth and tax compliance. Furthermore, following the adoption of a major pension reform, its strict implementation remains key to contain the projected imminent large increase in the pension expenditure-to-GDP ratio. Consolidating Romania's fiscal accounts would also reduce risks associated with external imbalances and strengthen investor confidence.

Strengthening the quality of public finances could create much-needed fiscal space over the medium-term. As part of the RRP, Romania shall introduce a systematic spending-review process. It is likely that this new process will help to identify inefficient spending and direct this spending instead to new policy priorities or to generate savings.

The management of public investment could be improved across the entire investment cycle. If Romania chose to put in place a coherent and comprehensive medium-term plan for investment this would significantly increase the impact of public investment. Such a plan should be: (i) anchored in long-term strategies such as 'Romania 2030'; (ii) integrated across sources of financing, including state-owned enterprises and public-private partnerships; and (iii) aligned with the medium-term fiscal strategy (Annex 13). Stronger monitoring and more systematic *ex post* reviews would also strengthen the efficiency of public investment.

To address these fiscal challenges, Romania should make efforts to strengthen its independent fiscal institution (IFI). The Romanian Fiscal Council has a relatively wide mandate. Its members have non-staggered mandates of 9 years, increasing the demands on a non-partisan nomination procedure. At its Secretariat, less than half of all available positions are filled, indicating recruitment issues. Access to information for the IFI could be further improved.

Romania continues to face competitiveness challenges

Facilitating firms' access to finance could spur competitiveness. Romania has the highest share of finance-constrained firms in the EU ([9]). Access to finance remains an issue for SMEs in particular. Building on the targeted measures included in the RRP, the use of financial instruments could be strengthened to support institutional and market capacity to promote the faster uptake of revolving forms of finance for private investments in the sectors with revenue-generating potential. Bank credit to the private sector in Romania is among the most expensive in the EU, making alternative options like self-financing and extended deadlines from trade credits attractive. However, measures under the RRP and cohesion-policy programmes (such as financial instruments for SMEs or de minimis schemes to assist firms in listing on the stock exchange) will help facilitate access to finance and diversify financing sources.

Further investment in research and innovation is needed. Romania has the weakest innovation performance in the EU, and the gap between Romania's performance and the EU average is widening ([10]). The lack of skilled workers to engage in R&I is holding back Romanian competitiveness and its move towards a knowledge economy. Weak science-industry collaboration remains a challenge, and innovation activity and R&D absorption capacity at company level are limited. In particular, although ICT is one of the largest sectors in Romania's economy, it is insufficiently innovation driven. The RRP and cohesion-policy programmes include measures to strengthen science-industry partnerships, streamline the governance of research and spur innovation, but further action is needed. In particular, Romania should set up multiannual budget planning for R&I in order to steadily increase public and private investment, a critical measure to help it reach its 2% R&I investment target by 2027 (Annex 11).

Administrative capacity remains a challenge. Romania's public administration is characterised by: (i) a lack of skilled staff; (ii) a low degree of digitalisation; (iii) excessively bureaucratic processes; and (iv) a pressing need to attract, develop and retain qualified people. Coordination across institutions and collaboration across different levels of government need to be strengthened. The capacity of the public administration to provide services and carry out reforms remains limited, and government effectiveness is significantly below the EU average (see

([9]) EIB Investment Survey 2023.

([10]) 2023 European Innovation Scoreboard (EIS), Romania profile: https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-ro.pdf. The EIS provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems.

Annex 13). Romania could improve its implementation of the EU-wide Once-Only Technical System of the Single Digital Gateway, which will enable the automated cross-border exchange of evidence in the EU. These challenges are partly addressed by the Cohesion Policy Funds and the RRP through: (i) administrative capacity building; (ii) roadmaps and reforms supporting administrative simplification and digitalisation (e.g. through a government cloud); (iii) setting competence frameworks for civil servants; and (iv) developing a fair public sector renumeration system linked to performance.

An incomplete cadastre continues to affect the security of property rights in Romania. Despite some progress,55% of properties in the country are registered in the integrated IT system for the cadastre and land book. Filling in the gaps in the cadastre could help attract investment and improve access to finance. Revenues from taxes on buildings and land. These taxes are the main source of revenue for local authorities, which are allowed to set rates, within a range set out in Romania's tax code. Revenues from property tax remain limited (see Annex 19). The reform of the tax framework included in the RRP aims to reduce property tax distortions.

Romania's industrial transition towards circularity is only in its initial stages. The implementation of circular business models should be improved, and eco-innovation incentivised through investments in R&D. Investing more into the transition to a circular economy improves resource efficiency while reducing waste and has clear potential to increase competitiveness.

Acting to remove the restrictions on regulated professions could boost productivity. Regulatory restrictions in a number of professions remain stricter in Romania than the EU average. This creates additional costs, especially for SMEs, and also lowers productivity. This is especially the case for notaries, civil engineers, architects and accountants. Lawyers are also subject to strictly defined means of practicing the profession, incompatibility rules and multidisciplinary restrictions, all of which affect the innovation potential of the legal sector. The fragmented system regulating civil engineers and their activities appears to also be a barrier to their free movement and hampers the efficiency of service provision ([11]).

Public procurement in Romania could be improved. The high levels of single bids (45% of contracts in 2023), direct awards (22%), unsuccessful bids (44%, the highest in the EU) and price-only award criteria (83%) signal a lack of competition in the Romanian public procurement market. This could potentially result in low value for money in public procurement. The capacity of SMEs to place quality bids could be improved. In addition, the staffing and administrative capacity of public procurement authorities, including the National Agency for Public Procurement, could be strengthened. The work of contracting authorities could also be improved, in part by issuing clearer specifications in calls for tender and making processes more predictable.

Strengthening policies to help people find work or training, access to education, healthcare, and social services all remain important

Labour and skills shortages and mismatches remain a challenge for employability. According to the European Skills Index, Romania is one of the worst performers in the EU for skills, especially in the area of skills development and in offering measures to help people to find work([5]). Romania's changing economy increasingly demands higher-skilled workers in fields such as ICT, healthcare and other professional, scientific and technical activities. This highlights the importance of increasing tertiary educational attainment. At the same time, the employment outcomes of low-skilled workers in Romania are deteriorating. Adult

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

participation in learning is highly unequal, with the low-skilled hardly engaging in any continuous learning compared with those that have tertiary education degrees (3.9% of the low-skilled engage in training in any given year vs 41.2% of those with tertiary degrees). Therefore, tackling skills shortages through timely implementation of reforms and investments in education and skills is key to both: (i) building up human capital and increasing long-term competitiveness; and (ii) improving social inclusion to ensure that no one is left behind (see Annex 14).

The low coverage and effectiveness of policies to help people find work or training remains a key challenge. The low effectiveness of public employment services holds back reskilling, upskilling and labour-market participation. In particular, this affects: (i) women; (ii) people that are not in employment, education or training (NEETs); (iii) Roma; and (iv) people with disabilities. Modernisation of the public employment services (including strengthening outreach mechanisms and better involvement of social partners) could improve measures to help people find work, enabling stronger and more inclusive growth. Addressing these challenges would help Romania reach its national employment-rate target of 74.7% by 2030 (see Annex 5 and 14).

Improving the quality of education and ensuring equal access to this education is the basis of a skilled workforce and breaking cycles of exclusion. Romania continues to face challenges in participation in early childhood education and care. It also suffers from high rates of early school leaving, especially for Roma and in rural areas. The impact of a person's socioeconomic background on their educational outcomes is very high and the school network is fragmented. These problems, coupled with the challenges linked to the teaching profession are reflected in low achievement rates in basic skills, especially in rural and disadvantaged communities. This in turn limits possibilities for people to find employment and provide the skills that companies need, perpetuating high rates of poverty and inequality (see Annex 15).

Addressing widespread poverty and inequality remains a challenge. Romania has one of the highest rates of both adults and children at risk of poverty and social exclusion within the EU. Those who are particularly affected by this include people living in rural areas, older people, children, and vulnerable groups (including people with disabilities and Roma). Accelerating the implementation of measures under both the RRP and cohesion policy, in particular the ESF+, would improve the situation and help Romania to meet its 2030 target of reducing the number of people at risk of poverty or social exclusion by 2.5 million (see Annex 14).

The coverage of social services remains low, with significant differences between income groups, regions, and urban and rural areas. The provision of quality health and social services remains low and uneven, especially in marginalised communities and for people with disabilities and older people. Access to healthcare varies significantly between the capital region around Bucharest and the rest of the country. It also varies greatly between urban and non-urban areas. The low availability and affordability of quality, non-residential, community-based care services is also delaying the deinstitutionalisation and transition to independent living of people with disabilities. Romania has one of the highest shares of people with long-term care needs in the EU (56% vs 26.6% in the EU). EU-funded programmes for 2021-2027 are supporting the delivery of integrated services for 2 000 disadvantaged rural communities and the deinstitutionalisation process of people with disabilities (see Annex 14). Other measures target improved access to health, education and employment services, with a focus on vulnerable groups, including people from remote areas or marginalised communities.

Addressing these challenges will help Romania boost upward social convergence. The second-stage analysis in line with the features of the Social Convergence Framework points to challenges for Romania that may affect social convergence in relation to its social situation, education and skills as well as the labour market ([12]).

Additional efforts for decarbonisation are needed

Climate change poses significant risks to Romania's economy, ecosystems, and population health. If countries act to decarbonise their economies, this will limit global warming and the frequency and severity of climate-related challenges and extreme weather events. Romania is vulnerable to the effects of climate change, particularly in agriculture, which accounts for more than 4% of its GDP. Households and businesses continue to be underinsured against natural hazards like floods (see Annex 6). Companies that adopt new environment-friendly technologies before their competitors can gain a competitive advantage, and Romania should encourage its companies to do this. A decarbonised energy sector would provide industry with low-cost energy, particularly important for the Romanian technology sector. By reducing emissions of greenhouse gases and other pollutants, Romania could improve the health and wellbeing of its people.

Romania's reliance on fossil fuels, in particular natural gas, remains high. Romania is making progress on the deployment of renewables and the phasing out of coal, in part thanks to RRF support. However, the decarbonisation of the transport and industrial sectors is only happening very slowly. Moreover, investments into the electricity grid, in particular in high- and medium-voltage transmission infrastructure, would help address bottlenecks. The legal and administrative procedure for approving new renewable power plants and connecting them to the grid (i.e. the permitting process) needs to be simplified. This issue of permitting is the subject of a measure in Romania's REPowerEU chapter.

Energy-efficiency renovations in buildings need to be further accelerated. To meet its climate targets, Romania's energy consumption will have to decrease. In 2022, 77% of primary energy consumption in residential houses originated from heating and cooling. District heating is one area where Romania has been particularly slow in decarbonising. And despite some recent progress, there is substantial untapped potential in the country for energy savings that require comprehensive renovation strategies and increased investment. For that, the REPowerEU chapter includes a measure which will support the energy-efficiency renovation of at least 33 000 buildings, while cohesion policy will make available EUR 2.1 billion in funding to improve energy efficiency for households and public buildings. To increase the renovation rate of both residential and non-residential buildings, it is crucial for Romania to address funding gaps, improve access to finance, and make use of private investments for energy-efficiency projects. Progress in this area will ultimately contribute to the country's national energy-efficiency goals.

To make progress on the green transition, Romania's workforce requires more green skills. Under REPowerEU, 4 000 Romanian workers will participate in courses in the field of renewable-energy production. This will increase the level of skills in the workforce necessary for the design, installation, and maintenance of renewable-energy systems, energy-efficient technologies, and green building practices. As the country progresses towards its energy-efficiency and renewable-energy objectives, there is increasing demand for a skilled labour force that can drive innovation and adapt to new, sustainable technologies (see Annex 8).

Energy poverty remains a significant challenge in Romania, with a significant share of the population unable to afford adequate heating. The cap on energy prices for industry and consumers is not targeted, and does not help the most vulnerable and energy

([12]) European Commission, SWD(2024)132. The analysis relies on all the available quantitative and qualitative evidence and analysing the policy response undertaken and planned.

Box 4: The mid-term review of cohesion-policy funds for Romania

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.

Romania has made progress in recent years in the implementation of cohesion-policy programmes and the European Pillar of Social Rights. Nevertheless, challenges remain as outlined in this report, including Annexes 14 and 17. In particular, territorial disparities in investment, employment, and labour productivity remain very high between the capital region and the other regions, as well as between urban and non-urban areas. Against this background, it remains important to continue the implementation of planned priorities, with particular attention to: (i) improving the management and sustainability of the water, wastewater, and waste sectors; (ii) improving energy efficiency, in particular by leveraging private investments through financial instruments; (iii) improving labour productivity and the capacity of enterprises to innovate, focusing on targeted business support, including public-private collaboration and participation in European research and innovation initiatives; (iv) investment in the railway network and sustainable urban transport; (v) investment in biodiversity protection; (vi) developing administrative capacity at national and sub-national levels, with a focus on strengthening the role of regional and local authorities in addressing key investment needs; (vii) Just Transition Plans, including phasing out coal by 2032; (viii) improving public employment services and the effectiveness of measures to find work or training for women, NEETs and disadvantaged groups such as people with disabilities and marginalised communities, such as Roma; (ix) education, training, and boosting the upskilling/reskilling of the population; and (x) the accessibility and quality of social services, long-term care services, and health services across the country for vulnerable groups while accelerating deinstitutionalisation efforts.

In preparation for the mid-term review, some areas merit special attention including: (i) the alleviation of poverty and the promotion of social inclusion, including the provision of social housing and social services for vulnerable households; and (ii) the sustainable development of smaller urban areas which face persistent deficits in administrative capacity.

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. Romania could benefit from the opportunities provided by the Strategic Technologies for Europe Platform (STEP) ([13]) initiative in the areas of digital technologies and deep tech innovation, clean and resource-efficient technologies, and biotechnologies to support the transformation of industry.

poor. Increasing the energy efficiency of housing will play a crucial role in mitigating energy costs and could be prioritised further. Romania could also benefit from a regulatory framework that encourages consumers to play a more active role in the energy market, for example by facilitating 'prosumer' initiatives and the development of energy communities. Addressing these issues comprehensively will be essential if Romania is to alleviate energy poverty, promote economic development, and progress towards a more equitable and sustainable energy landscape.

([13]) Regulation (EU) 2024/795

KEY FINDINGS

With its wide policy scope and substantial size, Romania's recovery and resilience plan includes measures to address a series of structural challenges, in synergy with other EU funds, including cohesion policy funding. Some of these measures are discussed below.

- **Accelerating the green transition** by: adopting the decarbonisation law; boosting the energy efficiency of buildings and the deployment of renewables; and greening the transport sector.
- **Supporting the digital transition** including the digitalisation of the public administration.
- **Promoting private-sector competitiveness** by implementing financial instruments and supporting Romania's participation in Important Projects of Common European Interest in semiconductors.
- **Improving the business environment** by reducing the regulatory burden and preventing grey/black work evasion.
- **Strengthening fiscal sustainability** through comprehensive reforms of the public pension and taxation systems aiming at structurally increasing government revenue, including by reducing the scope of the special regime for micro-enterprises.
- **Improving access to early childhood education and care** and reducing early school leaving.
- **Improving access to basic healthcare services and long-term care services,** in particular for people in disadvantaged and marginalised areas.

The implementation of Romania's recovery and resilience plan is facing significant delays and substantial challenges, which require decisive actions to ensure a successful implementation of all the measures of Romania's recovery and resilience plan by August 2026.

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

- **A credible and sustained fiscal consolidation path, including through more efficient public spending, in compliance with the excessive deficit procedure (EDP) ([14])**. This would help tackle Romania's domestic and external vulnerabilities.
- **Facilitating firms' access to finance,** as Romania has the highest share of finance-constrained firms in the EU.
- **Strengthening the capacity of the public administration at national, regional and local levels,** focusing on skills development, digitalisation of the administration and stronger coordination.
- **Increasing the staffing and administrative capacity of public procurement authorities** to increase competition.
- **Removing unnecessary regulatory restrictions in certain professions** and completing the cadastre.

([14]) Council Recommendation of 18 June 2021 with a view to bringing an end to the situation of an excessive government deficit in Romania, COM (2021) 304, 29.7.2021.

- **Promoting further public and private investment in research and innovation, while addressing investment barriers.** Strengthening science-industry collaboration and R&D at company level might be particularly helpful.

- **Boosting the transition towards a circular economy** to increase resource efficiency and productivity.

- **Advancing the energy transition,** reducing reliance on fossil fuels and in particular on gas while also: (i) stepping up the decarbonisation of district heating, transport and industrial sectors; and (ii) accelerating the rollout of energy efficiency measures and renewable energy deployment.

- **Strengthening investments in the electricity grid** and making it easier to obtain permits to connect renewable power plants to the grid.

- **To support upward social convergence, strengthening efforts to address high levels of poverty and material deprivation** and strengthening access to social services and capacity to provide targeted and integrated support, especially for vulnerable population groups such as Roma.

- **Addressing child poverty, ensuring equal access to quality education** and improving the level of basic skills, including digital skills, across segments of the population and geographical areas.

- **Promoting adult learning to tackle skills shortages and mismatches,** by aligning education and training with the needs of the labour market. Improving skills for the digital and green transitions.

- **Increasing the effectiveness of active labour market policies** and tackling persistent employment gaps in the labour-market participation of women, young people, people with disabilities, low-skilled people, and Roma.

ANNEXES

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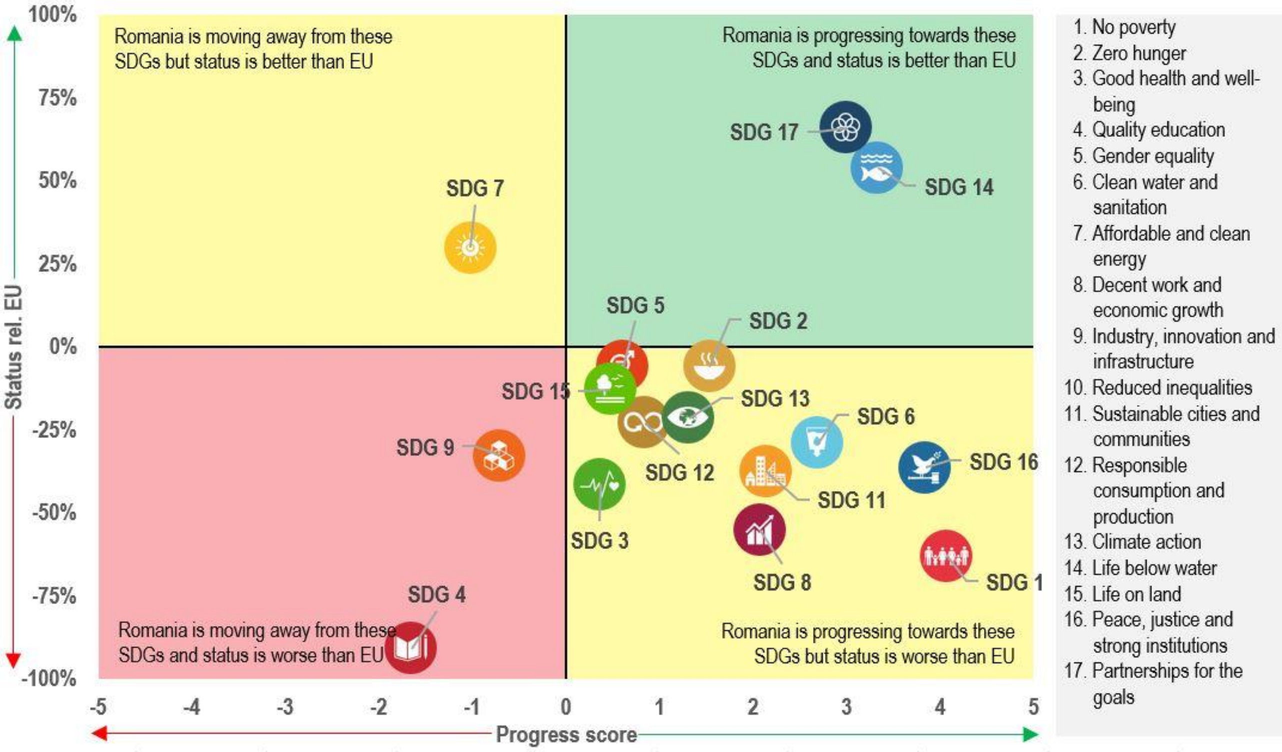
This Annex assesses Romania's progress on the Sustainable Development Goals (SDGs) along the four dimensions of competitive sustainability. The 17 SDGs and their related indicators provide a policy framework under the UN's 2030 Agenda for Sustainable Development. The aim is to end all forms of poverty, 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.

While Romania is improving on several SDG indicators related to *environmental sustainability* (SDGs 2, 6, 11, 12, 13, 14, 15), it is moving away from the targets for SDGs 7 and 9. Romania needs to catch up with the EU average for most of the SDGs related to environmental sustainability, on which it is improving (SDGs 2, 11, 12, 13, 15). On SDG 12 (Responsible consumption and production), the material footprint was 30.5 tonnes per inhabitant in 2022, compared to an EU average of 14.9 tonnes. Romania has been moving away from the goal for SDG 7 (Affordable and clean energy) and although it is still faring better than the EU on this SDG overall. In addition, the percentage of the Romanian population unable to keep their homes adequately warm is higher than the EU average (15.2% in 2022; EU average: 9.3%). Romania is moving away from the targets for SDG 9 and also needs to catch up with the EU average.

While Romania has made progress on some SDG indicators related to *fairness* (SDG 4), and *good health and well-being* (SDG 3), and in some cases significant progress (SDGs 1 and 8), it is moving away from the targets for SDG 5 (Gender equality) and SDG 7 (Affordable and clean energy). In general,

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



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.

poverty and deprivation declined between 2017 and 2022, though the self-reported unmet needs for medical care increased slightly from 4.7% to 4.9% over that period. However, Romania's track record on gender equality is concerning, as women's participation in the labour market remains low: between 2018 and 2023, the gender employment gap widened from 18.5 percentage points to 19.1 pps, while over the same period it decreased from 11.3 to 10.3 pps in the EU. As regards SDG 7, measures in the RRP are intended to support clean energy production and energy-efficiency renovation.

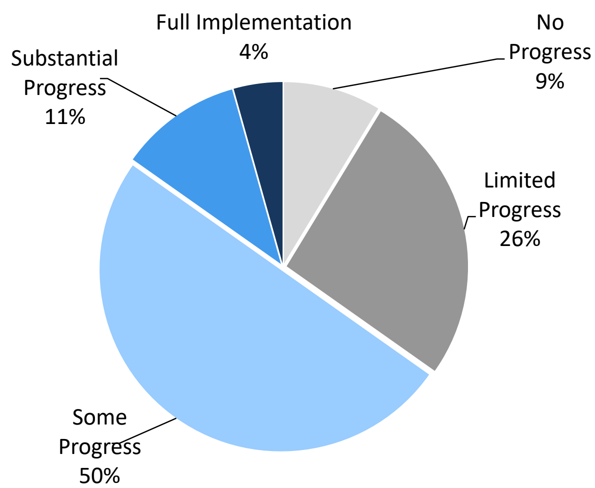
As regards SDGs linked to *productivity*, Romania is improving on SDG 4 (Quality education) and SDG 8 (Decent work and economic growth) but is moving away from the goal for SDG 9 (Industry, innovation and infrastructure). On SDG 8, while the percentage of young people not in employment, education or training decreased from 21.3% to 19.3% between 2018 and 2023, the figure remains well above the EU average of 11.2% in 2023, down from 13.3% in 2018. On the topic of quality education (SDG 4) the percentage of adults with at least basic digital skills remained stable from 2021 to 2023 at around 27.7%. This is significantly lower than the EU average of 55.6% in 2023, up from 53.9% in 2021. Romania also needs to catch up with the EU average for SDG 9 (0.46% of GDP expenditure on R&D; EU average: 2.24% in 2022). To address challenges linked to productivity, the recovery and resilience plan (RRP) aims to create a full professional route for higher technical education, digitalise the education process to improve digital skills for students and teachers and support research and innovation.

Romania is improving on all SDG indicators related to *macroeconomic stability* (SDGs 8, 16, 17). Romania's real GDP per capita (SDG 8) increased from EUR 8 910 in 2018 to EUR 10 250 in 2023 - chain linked volumes (2010) (EU average: EUR 28 940 in 2023). However, the country faces challenges related to trust in institutions, with the Corruption Perceptions Index standing at 46 in 2022 (EU average: 64). The index's scale runs from 0 (highly corrupt) to 100 (very clean)). Romania performs well on SDG 17 (Partnership for the goals). The RRP is expected to further improve the fight against corruption and help increase trust in public administration.

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) ([15]) addressed to Romania 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 Romania to date ([16]) and the commitments in its recovery and resilience plan (RRP) ([17]). At this stage of RRP implementation, 65% of the CSRs focusing on structural issues from 2019-2023 have recorded at least 'some progress', while 26% 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: **Romania's progress on the 2019-2023 CSRs (2024 European Semester)**



Source: European Commission.

([15]) 2023 CSRs: [EUR-Lex - 32023H0901(23) - EN - EUR-Lex (europa.eu)]

2022 CSRs: [EUR-Lex - 32022H0901(23) - EN - EUR-Lex (europa.eu)]

2021 CSRs: [EUR-Lex - 32021H0729(23) - EN - EUR-Lex (europa.eu)]
2020 CSRs: [EUR-Lex - 32020H0826(23) - EN - EUR-Lex (europa.eu)]
2019 CSRs: [EUR-Lex - 32019H0905(23) - EN - EUR-Lex (europa.eu)]

([16]) 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).

([17]) 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**

Romania	Assessment in May 2024*	RRP coverage of CSRs until 2026**	Relevant SDGs
2019 CSR 1	**Limited progress**		
Ensure compliance with the Council recommendation of 14 June 2019 with a view to correcting the significant deviation from the adjustment path toward the medium-term budgetary objective.	Not relevant anymore	Not applicable	SDG 8, 16
Ensure the full application of the fiscal framework.	No progress		SDG 8, 16
Strengthen tax compliance and collection.	Limited progress	Relevant RRP measures planned as of 2022	SDG 8, 16
2019 CSR 2	**Substantial progress**		
Safeguard financial stability and the robustness of the banking sector.	Substantial progress		SDG 8
Ensure the sustainability of the public pension system and	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 8
the long-term viability of the second pillar pension funds.	Some progress	Relevant RRP measures being implemented as of 2022	SDG 8
2019 CSR 3	**Some progress**		
Improve the quality and inclusiveness of education, in particular for Roma and other disadvantaged groups.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022	SDG 4, 8, 10
Improve skills, including digital, notably by increasing the labour market relevance of vocational education and training and higher education.	Some progress	Relevant RRP measures being implemented as of 2022	SDG 4
Increase the coverage and quality of social services and	Some progress	Relevant RRP measures planned as of 2022	SDG 1, 2,10
complete the minimum inclusion income reform.	Substantial progress	Relevant RRP measures planned as of 2022	SDG 1, 2, 10
Improve the functioning of social dialogue.	Some progress	Relevant RRP measures planned as of 2022	SDG 8
Ensure minimum wage setting based on objective criteria, consistent with job creation and competitiveness.	Limited progress	Relevant RRP measures planned as of 2024	SDG 8
Improve access to and cost-efficiency of healthcare, including through the shift to outpatient care.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 3
2019 CSR 4	**Some progress**		
Focus investment-related economic policy on transport, notably on its sustainability, low carbon energy and energy efficiency, environmental infrastructure as well as innovation, taking into account regional disparities.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 6, 7, 9, 10, 11, 12, 13
Improve preparation and prioritisation of large projects and accelerate their implementation.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 16
Improve the efficiency of public procurement and ensure full and sustainable implementation of the national public procurement strategy.	Some progress	Relevant RRP measures planned as of 2023	SDG 9
2019 CSR 5	**Some progress**		
Ensure that legilsative initiatives do not undermine legal certainty by improving the quality and predictability of decision-making, including by appropriate stakeholder consultations, effective impact assessments and streamlined administrative procedures.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 16
Strengthen the corporate governance of state-owned enterprises.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 9
2020 CSR 1	**Limited progress**		
Pursue fiscal policies in line with the Council's recommendation of 3 April 2020, while taking all necessary measures to effectively address the pandemic, sustain the economy and support the ensuing recovery.	Not relevant anymore	Not applicable	SDG 8, 16
Avoid the implementation of permanent measures that would endanger fiscal sustainability.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 8, 16
Strengthen the resilience of the health system, including in the areas of health workers and medical products, and improve access to health services.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 3
2020 CSR 2	**Some progress**		
Provide adequate income replacement and	Full implementation		SDG 1, 2, 10
extend social protection measures and	Some progress	Relevant RRP measures planned as of 2022	SDG 1, 2, 10
extend access to essential services for all.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 1, 2, 10
Mitigate the employment impact of the crisis by developing flexible working arrangements and activation measures.	Substantial progress	Relevant RRP measures planned as of 2024	SDG 8
Strengthen skills and digital learning and	Some progress	Relevant RRP measures being implemented as of 2022	SDG 4
ensure equal access to education.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2023	SDG 4, 8, 10

(Continued on the next page)

Table (continued)

2020 CSR 3	**Some progress**		
Ensure liquidity support to the economy benefiting businesses and households, particularly small and medium-sized enterprises and the self-employed.	Full implementation	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 8, 9
Front-load mature public investment projects and	Some progress	Relevant RRP measures planned as of 2022 and 2023	SDG 8, 16
promote private investment to foster the economic recovery.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 8, 9
Focus investment on the green and digital transition, in particular on sustainable transport,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 11
digital service infrastructure,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 9
clean and efficient production and use of energy and environmental infrastructure, including in the coal regions.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 6, 7, 9, 10, 11, 12, 13
2020 CSR 4	**Limited progress**		
Improve the quality and effectiveness of public administration and	Some progress	Relevant RRP measures planned as of 2022 and 2023	SDG 16
improve the predictability of decision-making, including through an adequate involvement of social partners.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 16
2021 CSR 1	**Not relevant anymore**		
Pursue fiscal policies in line with the Council Recommendation of 18 June 2021 with a view to bringing an end to the situation of an excessive government deficit in Romania.	Not relevant anymore	Not applicable	SDG 8, 16
2022 CSR 1	**No progress**		
Pursue fiscal policies in line with the Council Recommendation of 18 June 2021 with a view to bringing an end to the situation of an excessive government deficit in Romania.	No progress	Not applicable	SDG 8, 16
2022 CSR 2			
Proceed with the implementation of its recovery and resilience plan, in line with the milestones and targets included in the Council Implementing Decision of 3 November 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.		
2022 CSR 3	**Some progress**		
Reduce overall reliance on fossil fuels.	Some progress	Relevant RRP measures being implemented as of 2021	SDG 7, 9, 13
Facilitate the further expansion of sustainable energy production by accelerating the development of renewables,	Limited progress	Relevant RRP measures planned as of 2022	SDG 7, 9, 13
upgrading energy transmission grids and increasing interconnection with neighboring Member States.	Limited progress	Not applicable	SDG 7, 9, 13
Increase the pace and ambition of renovations to advance the energy efficiency of the building stock.	Some progress	Relevant RRP measures planned as of 2022	SDG 7
2023 CSR 1	**Limited progress**		
Pursue fiscal policies in line with the Council Recommendation of 18 June 2021 with a view to bringing an end to the situation of an excessive government deficit in Romania by 2024, and to strengthen Romania's external position.	No progress	Not applicable	SDG 8, 16
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.	Limited progress	Not applicable	SDG 8, 16
Preserve nationally financed public investment and ensure the effective absorption of RRF grants and other EU funds, in particular to foster the green and digital transitions.	Substantial 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, to achieve a prudent medium-term fiscal position.	No progress	Not applicable	SDG 8, 16
2023 CSR 2			
Ensure an effective governance and strengthen the administrative capacity to allow for a continued swift and steady implementation of the recovery and resilience plan. Swiftly finalise the REPowerEU chapter with a view to rapidly starting its implementation. 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.		

(Continued on the next page)

Table (continued)

2023 CSR 3	**Some progress**		
Reduce reliance on fossil fuels and	Some progress	Relevant RRP measures being implemented as of 2021	SDG 7, 9, 13
accelerate the energy transition, in particular by deploying renewable energy faster and improving grid capacity to allow new capacity to operate in the market.	Limited progress	Relevant RRP measures being implemented as of 2021	SDG 7, 9, 13
Increase energy efficiency and the ambition of building renovation efforts, including by providing better access to information and sustainable finance options.	Some progress	Relevant RRP measures being implemented as of 2021	SDG 7
Step up policy efforts aimed at the provision and acquisition of skills and competences needed for the green transition.	Limited progress	Relevant RRP measures being planned as of 2024	SDG 4

Note:
* See footnote ([18]).
** RRP measures included in this table contribute to the implementation of CSRs. Nevertheless, additional measures outside the RRP may be 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 Romania'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 13.6 billion in grants and EUR 14.9 billion in loans under the RRF over the 2021-2026 period, representing 8.8% of Romania's GDP ([18]). As of mid-May 2024, EUR 9.4 billion has been disbursed to Romania under the RRF, comprising EUR 5.8 billion in grants and EUR 3.6 billion in loans.

Romania still has EUR 19 billion available in grants and loans from the RRF. This will be disbursed after the assessment of the future fulfilment of the remaining 448 milestones and targets ([19]) included in the Council Implementing Decision ([20]) (CID), ahead of the 2026 deadline established for the RRF.

Romania's progress in implementing its plan is recorded in the Recovery and Resilience Scoreboard ([21]). 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.

Romania'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 288 million was disbursed as pre-financing on 25 January 2024. This helped launch relevant reforms such as setting up the one-stop shop for renovations and deployment of renewables by prosumers.

The plan has a strong focus on the green transition, dedicating 44.2% of the available funds to measures that support climate objectives and 21.9% of its total allocation to support the digital transition. It also retains a strong social dimension with social protection measures, especially related to support for children from vulnerable families, persons with disabilities and the elderly, as well as the implementation of the Minimum Inclusion Income.

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

Initial plan CID adoption date	29 October 2021
Scope	Revised plan with REPowerEU chapter
Last major revision	8 December 2023
Total allocation	EUR 13.6 billion in grants and EUR 14.9 billion in loans (8.8% of 2023 GDP)
Investments and reforms	111 investments and 66 reforms
Total number of milestones and targets	518
Fulfilled milestones and targets	70 (13.5% of total)

Source: RRF Scoreboard

With two payment requests completed, Romania's implementation of its RRP is significantly delayed. The Commission gave a positive assessment of Romania's first payment request, taking into account the opinion of the Economic and Financial Committee. This led to EUR 2.6 billion being disbursed in financial support on 27 October 2022 ([22]). The related 21 milestones and targets covered reforms and investments in the areas of sustainable mobility, decarbonisation,

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

([19]) 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.

([20]) https://data.consilium.europa.eu/doc/document/ST-12319-2021-ADD-1/en/pdf

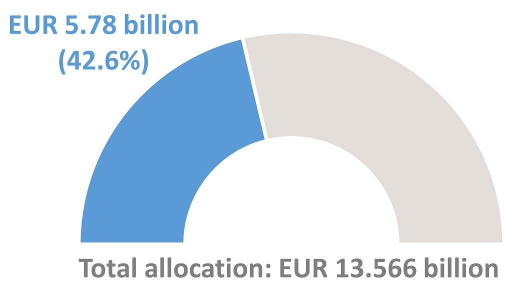
([21]) https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

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

audit and control, education and health, and preliminary steps in tax and pension reforms, among others.

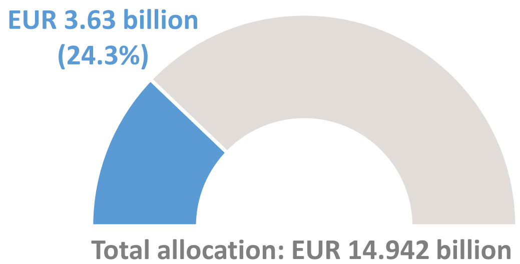
The most recent payment request, which the Commission assessed positively on 27 June 2023, led to the disbursement of EUR 2.8 billion on 29 September 2023. The disbursement reflected the positive assessment of 49 out of 51 milestones and targets covering among others the digitalisation of healthcare, affordable housing, culture, the business environment, decarbonization of transport, and rural fire prevention. The remaining two milestones concerning energy investments had not been satisfactorily fulfilled. The Commission has therefore activated the 'payment suspension' procedure, as envisaged by Article 24(6) of the RRF Regulation. Upon provision of evidence within the period stipulated in the provisions of the RRF Regulation, the Commission will assess the satisfactory fulfilment of the milestones and, if appropriate, lift the suspension of the payment.

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

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



Source: RRF Scoreboard

As of 15 May 2024, the Commission is working in collaboration with Romania to assess its third payment request. Table A3.2 highlights some relevant measures achieved so far, and some that will be implemented before 2026 to keep making Romania's economy greener, more digital, inclusive, and resilient.

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

Reformsand investments implemented
• Reform of the compulsory education system to prevent and reduce early school leaving • Development of the architecture of a government cloud system • Reform of the long-term care system
Upcoming reforms and investments
• New minimum wage setting mechanism • Modernization of railways • Energy efficiency one-stop-shops for citizens

Source: FENIX

EU funding instruments provide considerable resources for recovery and growth to the EU Member States. In addition to the EUR 28.5 billion of Recovery and Resilience Facility (RRF) funding described in Annex 3, EU cohesion policy funds (23) provide EUR 31 billion to Romania for the 2021-2027 period (24). Support from these two instruments combined represents around 18.33% of the country's 2023 GDP, compared to the EU average of 5.38% of GDP (25). 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 Romania's competitiveness, with tangible achievements notably in research and innovation, water and sanitation, energy efficiency, health services and skills. By the end of the eligibility period in December 2023, 2014-2020 cohesion policy funds (26) had made EUR 24.1 billion available to Romania (27), of which EUR 16.5 billion has been disbursed since March 2020, when the COVID-19 pandemic began (28). The achievements of cohesion policy funds over the programming period included support to R&D, connections to water supply and sanitation services for 900 000 people, improved energy efficiency for 60 000 households, and improved health services for 2.2 million people. On top of this, the REACT-EU programme helped mitigate the impact of the COVID-19 pandemic, e.g. through grants to SMEs and purchase of health and IT equipment. SAFE flexibility schemes were used to reimburse vouchers for vulnerable households to cover energy costs. During the same period, EUR 4.5 billion provided by the European Social Fund benefited more than 1.9 million participants, including those from vulnerable backgrounds, helping them to access training, gain qualifications and improve their employment outcomes. Around EUR 500 million in EU funding was spent on material support and aid to the most deprived. For example, over 600 000 vulnerable people received vouchers for food and hot meals.

In the current programming period (2021-2027), cohesion policy will provide a further boost to Romania's competitiveness, to the green transition and to social cohesion, improving the living and working conditions of Romania's people. The European Regional Development Fund and the Cohesion Fund will boost innovation and digitalisation by supporting more than 20 000 companies and digitalising more than 400 public institutions. Significant investments are planned to improve the water supply for more than 650 000 people. In addition, the Just Transition Fund will help workers and businesses in six carbon-intensive counties (Hunedoara, Dolj, Gorj, Prahova, Mureș and Galați) to find new jobs and skills. It will support more than 5 800 businesses, train almost 30 000 workers and help almost 7 000 unemployed workers find a job. The European Social Fund Plus (ESF+) will support the modernisation of the public employment services with EUR 216 million and help develop the skills of over 350 000 people to enable them to gain new qualifications, including in fields related to the green and digital transitions. These measures will help people better overcome the challenges of the green and digital transitions. The ESF+ will help implement the European Child Guarantee action plan in Romania, benefiting more than 700 000 vulnerable children and young people. Food and material support will reach more than 1.8 million disadvantaged people. In education, the ESF+ will contribute EUR 1.6 billion to measures to improve quality, inclusiveness and labour-market relevance of education. With this work, cohesion policy substantially contributes to achieving the UN Sustainable Development Goals (SDGs) in Romania, in particular SDG 9 (Industry, innovation, infrastructure), SDG 8 (Decent work and economic growth) and SDG 1 (No poverty).

(23) 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.

(24) European territorial cooperation (ETC) programmes are excluded from the figure. In 2021-2027, the total investment, including national financing, amounts to EUR 46.6 billion.

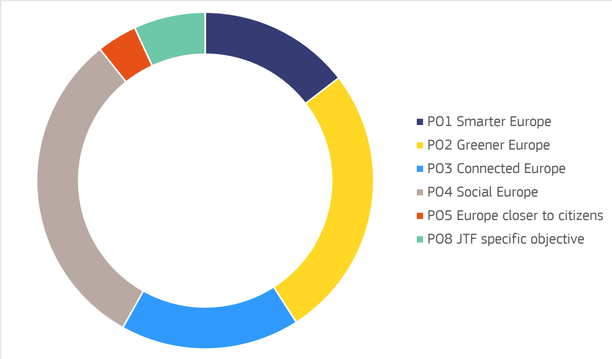
(25) RRF funding includes both grants and loans, where applicable. The EU average is calculated for cohesion policy funds excluding ETC programmes. GDP figures are based on Eurostat data for 2022.

(26) 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.

(27) In 2014-2020, the total investment, including national financing, amounted to EUR 28.5 billion.

(28) Cut-off date: 14 May 2024.

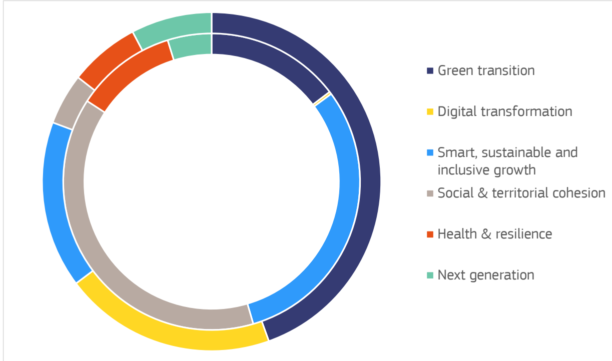
Graph A4.1: **Distribution of cohesion policy funding across policy objectives in Romania**



Source: European Commission

Through combined action, cohesion policy and the recovery and resilience plan (RRP) have a mutually reinforcing impact in Romania. For instance, in water management, cohesion policy funds finance the collection of waste water across the country, while the Romanian RRP focuses on urban areas with a population of 2 000 or less. Together, cohesion policy and the RRP also strengthen people's access to the country's healthcare system. A priority of the cohesion policy's health programme is providing support to outpatient care units and health facilities that will implement population diagnostics and treatment screening programmes. In parallel, both cohesion policy programmes and the RRP aim to improve access for people in disadvantaged and marginalised areas to basic healthcare, and improve access for people with disabilities and long-term care needs to community or home-based services. The RRP and the ESF+ are helping implement a national programme to combat early school dropout. Furthermore, synergies between cohesion policy and the RRF are also visible in the area of social inclusion, for example, in measures preventing the separation of children from their families in vulnerable situations. An RRP reform has created the legal framework for family support, while cohesion policy will finance multifunctional recreational and educational centres for the children, and services that prevent separation and support deinstitutionalisation. The contribution of cohesion policy and RRP funding by policy objective is illustrated by Graphs A4.1 and A4.2.

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



(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 Romania.
Source: European Commission

The Technical Support Instrument (TSI) helps Romania invest in its public administration and create a better enabling environment for EU and national investment. The TSI has funded projects in Romania to design and implement growth-enhancing reforms since 2016. The support provided in 2023 included action to: roll out a renewable energy support scheme; implement the economic, social, governance risk management framework for the financial sector; and improve the efficiency of the fiscal control activity. Assistance from TSI has helped prepare JTPs. The TSI is also helping Romania to increase its overall capacity to implement specific reforms and investments included in its RRP, such as investments for its electronic identification (eID) system. in addition, a mechanism to identify schools with high risk of early school leaving so appropriate remedial actions could be rolled out was developed and piloted through two TSI projects implemented in previous years.

Romania also receives funding from several other EU instruments, including those listed in Table A4.1.

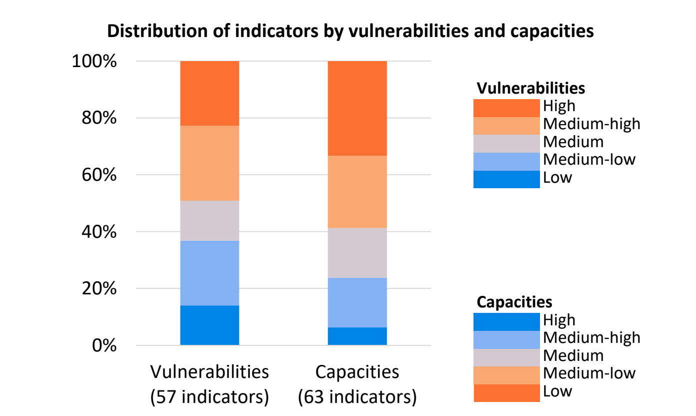
Table A4.1: **Support from EU instruments in Romania**

EU grants			
	Amount 2014-2020 (EUR million)		Amount 2021-2027 (EUR million)
Cohesion policy	24 100.0		31 000.0
RRF grants (1)	-		13 566.1
Public sector loan facility (grant component) (2)	-		162.3
Common agricultural policy (3)	25 715.8		14 969.6
EMFF/EMFAF (4)	223.3		162.5
Connecting Europe Facility (5)	1 151.6		893.8
Horizon 2020 / Horizon Europe (6)	301.4		211.8
LIFE programme (7)	19.2		10.8
EU guarantees			
	EU Guarantee (EUR million)		Volume of operations (EUR million)
European Fund for Strategic Investment 2015-2020 (8)	396.8		1 039.6
InvestEU 2021-2027 (9)	709.9		1 965.4
EU loans			
	Period	Total amount available (EUR million)	Disbursed amount (EUR million)
SURE (10)	2020-2022	3 000.0	3 000.0
RRF	2021-2026	14 942	3 630.0

(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 A5.1: **Resilience indices across dimensions for Romania and the EU-27**

Dimension		RO 2023 RDB	RO 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) ([29]) to show Romania's relative resilience capacities and vulnerabilities ([30]) that may be of relevance for societal, economic, digital and green transformations, and for dealing with future shocks and geopolitical challenges. ([31])

According to the RDB's set of resilience indicators, Romania has medium overall vulnerabilities (on a par with the EU average) and medium-low overall capacities (below the medium-high EU average). Romania's performance is reflected in the distribution of indicators: around 55% of its vulnerability indicators are between low and medium, while 60% of its capacity indicators are low and medium-low. Overall resilience and most dimension-specific resilience have remained unchanged from the previous year.

In the social and economic dimension, Romania has a lot of potential for decreasing its vulnerabilities while increasing its capacities. Social and economic vulnerabilities are medium-high, driven by some indicators displaying the highest challenges in the EU: the at-risk-of-poverty-or-social-exclusion rate, regional household income dispersion and the number of young people neither in employment nor in education and training. Romania has even greater potential for improving its capacities, which are below the EU average. Areas where it could improve its capacities are government expenditures and the impact of social transfers on poverty reduction, both of which are the lowest in the EU. Indicators for learning and skills, such as adult participation in learning, average Programme for International Student Assessment (PISA) test scores, and children under 3 in formal childcare, are among the lowest in the EU. Medium-high vulnerabilities and low capacities make the social and economic dimension Romania's biggest resilience challenge, with no improvements from one year to the next.

In the green dimension, Romania has medium-low vulnerabilities, above the EU average, and medium-low capacities, below the EU average (medium-high). Among its vulnerabilities, it's still struggling, with relatively high raw material consumption per capita, while on the capacity side it has low sustainable use of resources (resource productivity, circular material

([29]) 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).

([30]) 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.

([31]) 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.

use), and few insured losses from extreme climate events.

Romania remains behind the rest of the EU in the digital dimension, with medium-high vulnerabilities and medium-low capacities. Some of its primary challenges include the availability of and access to digital public services, as well as the high and increasing proportion of employees who do not telework, and the high proportion of businesses without information and communication technology (ICT) training programmes. The country also has some low digital capacities, with one of the EU's lowest levels of digital literacy among adults and young people, and one of the lowest levels of cybersecurity awareness and use of e-healthcare.

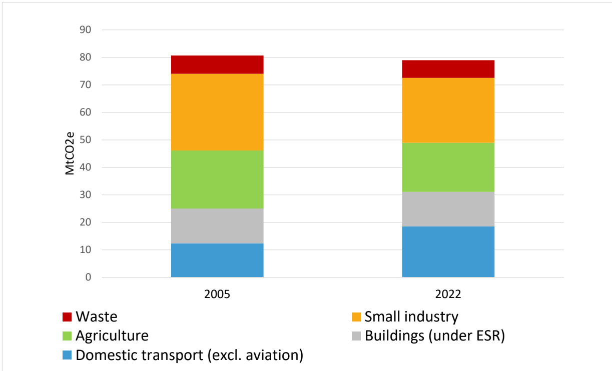
In the geopolitical dimension, Romania has relatively low vulnerabilities compared to the EU average, and its capacities remain below the EU average. The reasons for its medium-low vulnerabilities are Romania's low metal footprint per capita, low import dependency in energy materials and low concentration of energy carrier suppliers, value chain partners and extra-EU export partners. The reasons for its capacities being medium-low overall – below the EU average – are low financial integration, low extra-EU trade openness and low levels of migrant inflow and integration into Romania's labour markets. However, current developments related to the Russian aggression against Ukraine calls for additional focus on strengthening overall resilience.

Romania has made progress in the green transition, with more action needed on specifying the policies needed to attain its 2030 effort sharing target, addressing greenhouse gas emissions from road transport and potential losses from climate hazards, circular economy, and other areas. This Annex provides a snapshot of climate, energy, and environmental aspects of the transition in Romania ([32]).

Romania's draft updated national energy and climate plan (NECP) provides only very broad information on the investment needed to achieve its 2030 climate and energy targets. While the plan presents some figures, the information is inconsistent across sectors and lacking in detail. The plan maps the main sources of funding available at EU, national and local level for most policy actions, showing significant reliance on private investment and public-private partnerships. Since funding needs are not specified for most actions, potential funding gaps cannot be pinpointed ([33]).

With the policies and measures currently planned, Romania is set to fall short of its 2030 effort sharing target ([34]). In 2022, Romania's greenhouse gas emissions from its effort sharing sectors are expected to be 1% above 2005 levels. Current policies are projected to increase Romania's effort sharing emissions by 7.1% compared to 2005 levels by 2030. The additional policies included in Romania's draft updated NECP are projected to contain the increase at 4.4 % compared to 2005 levels ([35]). This leaves a gap of over 17 percentage points below Romania's effort sharing target to achieve a 12.7% reduction, highlighting the importance to plan and implement more ambitious climate action.

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



Source: European Environment Agency

Greenhouse gas emissions from road transport are a particular concern for Romania, despite the significant role of other modes of transport ([36]). In Romania, rail and buses/coaches account for 17% of passenger transport. On the transport of freight, inland waterways and rail each account for 25% of movements. However, only 37% of Romania's rail network is electrified (EU average: 56%). Regarding passenger cars, Romania's shift to sustainable transport has yet to take off. In 2022, battery electric vehicles accounted for 0.3% of the country's passenger vehicle fleet, while its 2 660 publicly accessible charging points provided a charging point for every 12 electric vehicles (below the EU average of 1:10). In 2022, greenhouse gas emissions from road transport increased by 8.3% compared to 2005 levels, and their share in the

([32]) 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.

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

([34]) 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).

([35]) The effort sharing emissions for 2022 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Romania's draft updated NECP does not provide emission projections for the effort sharing sectors. The information on such projections ('with existing measures' (WEM) and 'with additional measures' (WAM)) 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).

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

effort sharing emissions rose to 23.4%, from 15.4% in 2005. As the upcoming emissions trading system for the road transport sector (and buildings) as of 2027 draws closer, measures to curb greenhouse gas emissions from road transport targeting vulnerable consumers appear particularly pertinent.

There is scope for increasing Romania's target for renewable energy in its final updated NECP ([37]). Romania's renewable energy contribution set in its draft updated NECP, 34% by 2030, is significantly below the required contribution of 41%. However, its energy efficiency contributions of 31.4 Mtoe in primary energy consumption and 23.2 Mtoe in final energy consumption for 2030 set in the draft updated NECP are more ambitious than those required by the Energy Efficiency Directive, and in the case of primary energy consumption even above the maximum authorised deviation.

Romania is unlikely to meet its 2030 target for removing carbon from the atmosphere through land use, land use change and forestry (LULUCF). In recent years, the country's land use sector has acted as a carbon sink. Its 2030 LULUCF target will require additional carbon removals of 2 380 kt CO_2 ([38]), but according to the latest projections, Romania is expected to fall short of this figure ([39]).

A wide climate protection gap ([40]) could pose challenges to Romania's public finances. Romania is vulnerable to extreme events related to climate change, such as floods, drought, and heatwaves. Agriculture is particularly affected. Romania has a pronounced insurance gap for flooding. Indeed, all climate-related hazards have an insurance penetration below 50%. Data from 1980–2020 show that only 5% of economic losses were insured. Appropriate institutional mechanisms are crucial for climate adaptation. In this regard, Romania has weaknesses in the monitoring and evaluation of adaptation policies, the analysis of climate vulnerabilities and risks, coordination across sectors of government, and adaptation action at local level. Moreover, there is considerable scope for integrating nature-based solutions into national, sectoral and local adaptation plans ([41]).

Sustainable water management is a major environmental challenge for Romania. The water exploitation index plus (WEI+) stood at 9% in 2019, and the country experienced the worst seasonal value ever in Q3-2019 at 23.5% ([42]). Over 2000-2020, an average of 4% of Romania's area was impacted by droughts, while in 2022 it reached 14.7%. The efficient use of water resources can be measured by water productivity ([43]). In 2021, Romania generated EUR 26 per cubic metre of water abstracted, among the lowest values in the EU. According to the second river basin management plan ([44]), 66% of all surface water bodies reached at least good ecological status and 98% reached good chemical status. All marine waters are not yet in a good environmental status, as tracked by the descriptors used in the Marine Strategy Framework Directive.

There is still room for improvement on biodiversity and nature protection and restoration. Romania's forestry system is generally subject to long-term planning to protect biodiversity in a sustainable way. However, illegal logging seems to be a serious issue and may have a significant impact on biodiversity in the affected areas. Romania would therefore benefit from

([37]) 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 Romania at 30.2 Mtoe for primary energy consumption. The Commission communicated a corrected national contribution of 22.47 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 to Romania.

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

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

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

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

([42]) Values above 20% are generally an index of water scarcity and values above 40% indicate that stress is severe and freshwater use unsuitable.

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

([44]) Data from the third river basin management plan are not yet available.

reforming the monitoring, traceability and control of logging activities. At the end of 2021, 23.4% of Romania's land and 21.4% of its marine area were under protection. According to the latest estimates on protected habitats and species, 68% of protected habitats and 48% of protected species were in a good conservation status in 2013-2018, placing Romania above the EU average. However, the share of species in an unfavourable/bad conservation status increased since the previous reporting period. Romania's Natura 2000 network could be managed more effectively by rolling out management plans and adopting conservation objectives. Romania can take the opportunity to redirect cohesion policy and Recovery and Resilience Fund funding to nature objectives and make efforts to improve its technical and administrative capacity.

Composting and digestion levels could be improved. Composting and digestion of municipal waste is insufficient. It decreased to 14 kg per capita in 2021, representing 4.6% of total municipal waste treatment.

On agriculture, between 2015 and 2023, the value of the agricultural sector's annual output fluctuated between EUR 15 and 19 billion. It stood at EUR 15.6 billion ([45]) in 2023. The share of the total utilised agricultural area (UAA) under organic agriculture reached only 4.4% in 2021 (EU average: 9.1%) ([46]). In 2022, the share of the total UAA under organic agriculture was around 5%. Romania' s national goal is to achieve at least 6% of agricultural land under organic farming by 2030.

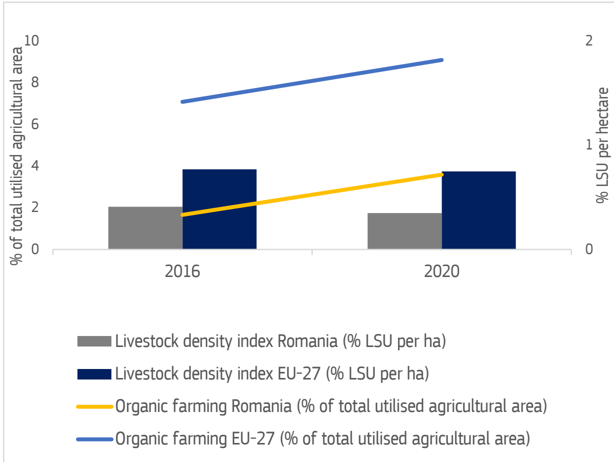
Livestock farming is intensifying in some Romanian regions. Romania's livestock density index decreased from 0.37% to 0.35% between 2010 and 2020, below the EU average of 0.75%. Regional differences remained and three regions – North-West, West and Central – reported an increase in livestock units over the same period. Intensive rearing of poultry and pigs is one of the industrial activities that puts the highest burden on the environment in terms of ammonia emissions into the air. The agricultural sector was responsible for generating 89.1% of all ammonia emissions, against the EU-27 average of 90.7% in 2021.

([45]) Production value at basic price (2015=100).

([46]) In 2020. 2021 data are not available.

1.9% of Romania's UAA is composed of irrigated land, and the water abstracted for agricultural purposes accounts for 31.7% of total abstraction.

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

Intensive agriculture continues to generate pollution. The latest figures for the gross nitrogen balance on agricultural land in Romania show nitrogen deficiencies, with an average of -24.9 kg of nitrogen per hectare per year in 2019. However, 12.6% of groundwater monitoring stations showed levels above the maximum 50 mg nitrate/l. The country's gross phosphorous balance increased to -6.1 kg/ha in 2019. In addition, there remains room for limiting agriculture's impact on climate. According to the impact assessment for the Soil Monitoring Law ([47]), 45% of Romanian soil could be considered as unhealthy ([48]). The loss of organic carbon affects 71% of the country's cropland and grassland area, while soil erosion affects 59% of cropland area. However, conservation tillage practices, which increase soil organic carbon, only covered 3% of Romania's tillable area in 2016 ([49]). The net stock change of organic soils in cropland and grassland areas increased over time and stood at 150.5 kt in 2021.

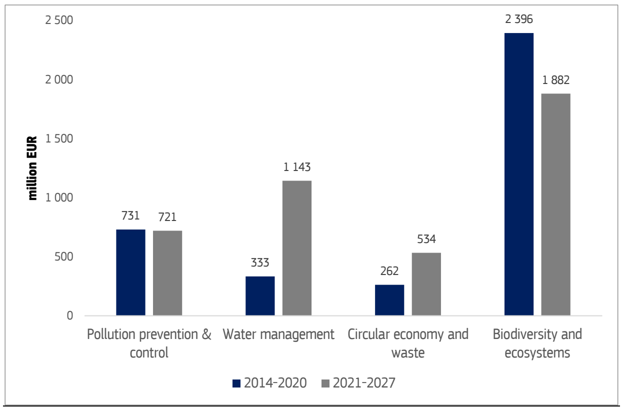
([47]) SWD 417 final of 05.07.2023 – impact assessment for the Directive of the European Parliament and of the Council on Soil Monitoring and Resilience (Soil Monitoring Law), (cfr. pg. 10, pg. 189-190, pg. 835-845).

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

([49]) Eurostat Share of tillage practices in arable area EU-27.

Air quality in Romania continues to give cause for serious concern. The latest available annual estimates (2021) by the European Environmental Agency point to Romania suffering about 1,111 years of life lost for every 100,000 inhabitants due to exposure to particulate matter (PM2.5) and 275 due to NO2. Furthermore, the indicator for smog-precursor emission intensity to GDP decreased by 64% between 2008 and 2021 and reached 1.78 tonne/EUR'10, performing way worse than the EU average.

Graph A6.3: **Environmental investment gap, 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

Romania would benefit from investing notably more in water, the circular economy and waste, but also further invest in pollution prevention and control, and biodiversity and ecosystems. Over the 2014-2020 period, the environmental investment gap was estimated at EUR 3.7 billion per year, equivalent to 2% of average GDP over that period, above the EU average of 0.8%. The gap is estimated to be increasing over the 2021-2027 period at EUR 4.1 billion per year. The annual investment gaps for sustainable water management and circular economy and waste increased (EUR 1.43 billion and EUR 534 million respectively), while the investment gaps for biodiversity and ecosystems and pollution prevention and control decreased. Romania is invited to build capacity and direct sufficient resources to sustainable water management and waste in particular, and to increase its technical and administrative capacity to protect biodiversity and ecosystems.

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	78 235.8	0%	2%	6%	1%	-13%	-20	-17
Net greenhouse gas removals from LULUCF [(2)]	Kt CO2eq	-30 958	-46 734	-49 110	-48 149	-46 466	-25 665	n/a	n/a
Share of energy from renewable sources (1) [(3)]	%	18%	24%	24%	24%	24%	0.41	-	-
Energy efficiency: primary energy consumption [(3)]	Mtoe	36.1	32.1	30.9	33.1	31.0	30.2		
Energy efficiency: final energy consumption [(3)]	Mtoe	24.6	23.9	23.5	25.4	24.0	22.5		
							EU-27		Projected
		2018	2019	2020	2021	2022	2021	2022	2030
Green transition: mobility									
Greenhouse gas emissions: road transport	Mt CO2e	-	-	-	19.4	18.5	769.0	786.6	23.3
Share of zero-emission vehicles in new registrations [(4)]	%	0.4	1	2.3	5.3	8.9	9	12.1	n/a
Number of publicly accessible AC/DC charging points		-	-	476	1084	1484	299178	446956	n/a
Share of electrified railways	%	37.4%	37.4%	37.5%	37.5%	-	56.1%	-	n/a
Green transition: buildings									
Greenhouse gas emissions: buildings	Mt CO2e	-	-	-	14.5	12.6	537.0	486.7	13.0
Final energy consumption in buildings	2015=100	106.7%	106.3%	107.7%	116.2%	107.3%	104.0%	97.2%	
Climate adaptation									
Climate protection gap [(5)]	score 1-4	-	-	1.7	2.1	1.9	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	19.4	9.0	-	-	-	3.6	-	-
Circular economy | Material footprint [(7)]	tonnes per person	23.3	27.9	30.4	31.0	30.0	14.2	14.8	14.9
Pollution | Years of life lost due to air pollution by PM2.5 [(8)]	per 100.000 inhabitants	1 369	1 121	1 215	1 111	-	545	584	-
Biodiversity | Habitats in good conservation status [(9)]	%	68.2					14.7		
Common farmland bird index [(10)]	2000=100	-	-	-	-	-	78	-	-
Green transition: agri-food sector									
Organic farming	% of total utilised agricultural area	2.43	2.86	3.59	4.42	-	9.1	-	-
Nitrates in groundwater	mg NO_3/litre	18.28	17.99	21.47	-	-	20.42	-	-
Food waste per capita	Kg per capita			-	-	-	130	131	-
Share of soil in poor health [(11)]	%					45			41
Soil organic matter in agricultural land [(12)]	Mt per ha	580	-	-	-	-	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 (50) sets out Romania's progress and challenges in accelerating the net-zero energy transition while boosting the EU's competitiveness in the clean energy sector (51). It considers measures and targets put forward in the draft updated National Energy and Climate Plans (NECPs) for 2030 (52).

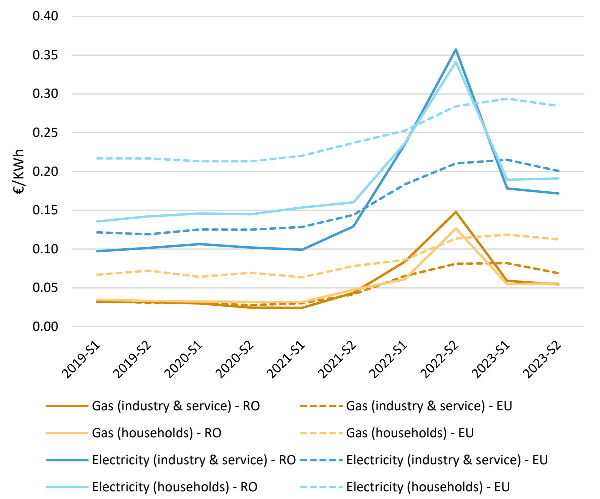
Romania displays positive developments in terms of security of energy supply, and has managed to keep energy prices for households relatively low and stable. However, energy prices for industry and services remain higher than the EU average, the deployment of renewable energy is advancing very slowly, Romania continuing to be heavily dependent on fossil fuels, and energy poverty remains a significant challenge.

In 2022, estimated fossil fuel subsidies in Romania surged to EUR 2.5 billion marking a 110% increase from 2021 and accounting for 0.87% of Romania's GDP, above the EU average (0.71%). This increase mainly reflects the much larger cross-sectoral support prompted by the energy crisis. Despite the discontinuation of these short-term measures throughout 2023, fossil fuel subsidies in Romania had been steadily increasing since 2019, accounting on average for more than half of all energy subsidies, indicating a structural lack of progress in this aspect. Additionally, Romania's long-term commitment to phase out these subsidies remains uncertain, with no specified end-date for the vast majority of ongoing fossil fuel subsidy measures.

In contrast to the trends observed in the rest of the EU, household electricity and gas prices in Romania experienced a significant decline as early as the first semester of 2023, now ranking among the lowest in the EU. Following a similar trajectory, average prices for the industry sharply declined during the first semester of 2023 - by 50% for electricity and 60% for gas - before stabilizing at average prices 14% and 21% below the EU average, respectively, during the second semester of 2023.

Direct energy support measures for final consumers and retail price caps have been implemented to alleviate the impact of the energy crisis in terms of prices. Vulnerable consumers receive support for the payment of energy bills in the amount of 700 lei twice a year. These are given to approximately 4 million vulnerable people, who live in approximately 2.8 million eligible households, to offset the price of energy. Retail cap pricing was introduced in March 2022, then extended until 31 March 2025 with some amendments. A different cap price applies depending on the level of household consumption, special needs, the number of children, and sector (e.g. schools, hospitals, nurseries, transport), size of the businesses, and type of industry.

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



(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, Japan, and to a lesser extent, the UK. Although there has

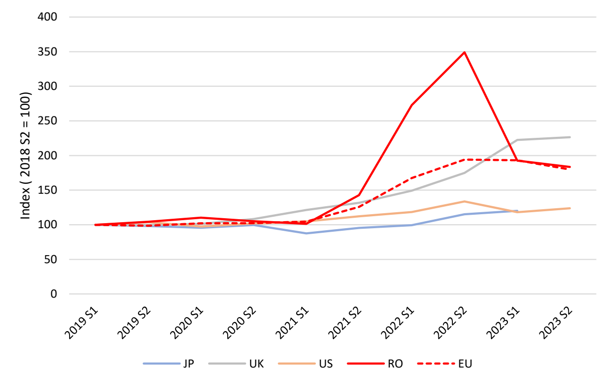
(50) It is complemented by Annex 6 as the European Green Deal focuses on the clean energy transition and by Annex 8 on the action taken to protect the most vulnerable groups, complementing ongoing efforts under the European Green Deal, REPowerEU and European Green Deal Industrial Plan.

(51) In line with the Green Deal Industrial Plan and the Net-Zero Industry Act.

(52) Romania submitted its draft updated NECP in October 2023, and the 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 Romania - European Commission (europa.eu).]

been a notable decline since the second half of 2022, Romania's electricity prices have persisted above those of the US and Japan. This could potentially affect the international competitiveness of energy-intensive industries in the country.

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



(1) For Eurostat data (EU and RO), 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

According to Eurostat data for 2022, Romania's energy mix remains highly dependent on fossil fuels, with less than one third of its energy coming from renewable energy (20%) and nuclear energy (9%).

Natural gas remains a crucial component of Romania's energy system, constituting 26.5% of the overall energy mix (slight decrease from 29% the previous year) and 17% of the electricity mix in 2022 ([53]). Despite being the second-largest gas producer in the EU, with considerable domestic production, Romania still depends on imports for about 23% of its gas consumption, mainly during periods of high demand in winter. A significant part of Romania's gas imports consumption has historically been supplied by Russia. The decrease in Romania's import dependency is a key part of its national energy policy, following the Russian invasion of Ukraine. Romania's gas storage capacity is at 3.1 bcm, representing 31% of its annual gas consumption in 2022. Romania fulfilled its gas storage obligations last winter, reaching 102.8% by 1 November 2023, and ended the winter season with a storage filled at 50.86% by 1 April 2024.

To increase the security of its gas supply, Romania has focused on improving its gas network and cross-border interconnections. Priority projects include BRUA phase II, to developing its internal transmission network, and connecting the Neptun Deep gas field to the transmission network. After the invasion of Ukraine, Romania managed to reduce its gas demand by 20% between August 2022 and December 2023, compared to the average of the previous 5 years.

Romania's main electricity security of supply objective is to consolidate domestic generation and the diversity of the generation mix. The country has set an objective to install 30.4 GW of renewable capacity by 2030, and have 76% of its power generated from renewable energy sources, by the same year.

Romania operates two nuclear reactors with a total capacity of 1400 MW, at the Cernavodă nuclear power plant. Both are CANDU (Canada Deuterium Uranium). Romania plans to further expand its nuclear power programme, by adding two more reactors at the Cernavodă nuclear power plant, and by developing small modules reactors (SMRs).

Romania has electricity interconnections with each of its neighbours. There are a number of projects planned until 2030 aimed to strengthen interconnection capacities and to allow integrating more renewable energy. Romania is also part of several important on-going cross-border projects, including a Project of Common Interest (PCI) between Romania and Hungary and the Central and South Eastern Europe Energy Connectivity CESEC priority projects, namely the mid-Continental East Corridor and related internal reinforcement projects, as well as two electricity lines with Moldova, particularly the Suceava-Balti line. Expanded interconnection capacity and greater system flexibility will allow an easier integration of renewable energy.

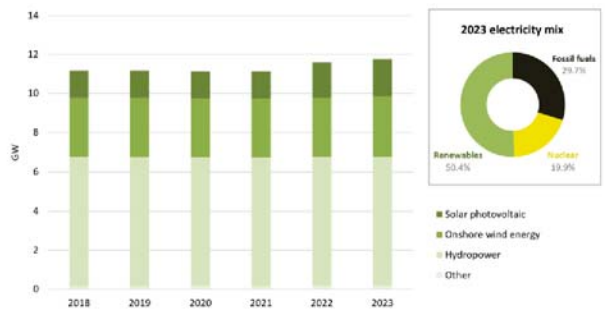
Romania indicated its coal phase-out date in its draft updated NECP. The draft updated NECP states that coal will be phased out in the power sector by 2032, corresponding to the

([53]) Eurostat.

commitments from the Territorial Just Transition Plans. However, the intermediate trajectory after 2025 is not clearly described. The draft updated NECP has however no information on the closure of extraction sites or details on the phasing out of specific coal and lignite power plants ([54]).

Renewable installed capacity has increased by less than 0.2% in 2023. Romania's total renewable energy capacity in 2023 was 11 763 MW ([55]), almost the same as in 2022 (11 580). Wind energy capacity in 2023 was 3 087 MW, a slight increase compared to 3 015MW in 2022. Romania's total solar capacity in 2023 was 1 917 MW, a slight increase from 1 809 MW in 2022.

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



(1) "Other" includes solid biofuels, solar thermal energy, biogas and geothermal energy
Source: IRENA, Ember

Romania has taken some steps to implement reforms to accelerate the deployment of renewables. An Emergency Order adopted in December 2022 introduces single contact points, maximum permit-granting deadlines based on project size, and a simple notification procedure for connecting small renewable energy projects to the grid. It also sets up a framework for self-consumption and energy communities, although full supporting legislation is pending. In 2023, Romania simplified permitting procedures by removing the need for urban planning documentation for renewable energy projects. It also approved a general legal framework for Contracts for Difference support for renewable and low-carbon technologies projects.

Romania's submitted contribution to the EU target, mentioned in its draft updated NECP (34%) is significantly below the one resulting from EU legislation (estimated at 41%).

Romania's share of renewables in heating and cooling (25.5% in 2021), slightly above the EU average (22.9%), is mainly the result of biomass use. The draft updated NECP's targets are not ambitious enough. The proportion of heat pumps in the heating and cooling sector is expected to almost double by 2030, compared to 2022, while biomass will remain the main source of renewable heat.

The implementation of a number of priority projects set out in the recently endorsed CESEC Electricity and Renewable Energy Action Plan will further strengthen market integration in the CESEC region and accommodate the additional onshore and offshore wind generation capacity (1GW) that Romania plans to commission by 2030.

Consumer empowerment in the electricity market is greater than in the gas market due to the increasing number of prosumers. In the last report published by the Romanian Regulator (ANRE), the number of registered prosumers in 2021 was 13 582, estimated to rise significantly to 140 000 at the end of 2023. The enabling framework for prosumers has been put in place and there is a positive trend, but this is not the case for energy communities, lacking the legislative framework and supporting measures to develop significantly. The number of households integrated into the smart metering system at the end of 2022 was 1 792 342.

Romania has made significant progress in contributing to the 2030 EU energy efficiency targets. In 2022, its primary energy consumption was 31.0 Mtoe, a 6.3% decrease compared to 2021, and a 6.8% decrease compared to 2012. Its final energy consumption was 24.0 Mtoe, a 5.3% decrease compared to 2021, and a 5.5% increase compared to 2012. In the last year, the best results came from the industry sector, which decreased its final energy consumption by 16.3%, and the worst from the transport sector, which increased its final energy consumption by 8.2%.

([54]) See the Commission's assessment of the draft updated NECP.

([55]) International Renewable Energy Agency (IRENA) report 2024.

Romania has overachieved its 2020 energy efficiency target, but new additional measures are needed for it to reach its 2030 targets. In 2021 its primary energy consumption was 33 Mtoe, and its final energy consumption 25 Mtoe, in 2021, well above 2020 figures but still below the 2020 targets of 43 and 30 Mtoe respectively. In cohesion policy, energy efficiency represents 7% of overall EU financing, or EUR 1.6 billion. Most of this is allocated to the renovation of buildings (EUR 1.2 billion), while only EUR 115 million is allocated to energy efficiency in companies, for the establishment of financial instruments (expected to enable over 300 million EUR of eligible investments). In the area of energy efficiency in building, financial instruments are significantly underused.

In relation to buildings, Romania is expected to continue improving the energy efficiency of its residential sector, making a meaningful contribution to reaching its 2030 target in terms of buildings' energy consumption reduction. Residential final energy consumption decreased by 2% in 2022 compared to 2021, continuing its decrease since 2019, but was still above 2015-2017 levels. Heating and cooling represent the highest proportion of residential final energy consumption, at about 77% in 2022, with renewables supplying 26% of the total energy used for heating and cooling across all sectors in 2022. Heat pump sales on the Romanian market were three times higher in 2022 than in 2021. In the first half of 2023, the residential electricity/natural gas prices ratio was 2.93, while the non-residential electricity/natural gas prices ratio was 3.06, making the deployment of efficient heat pumps difficult.

Romania's recovery and resilience plan (RRP) supports the green transition with key investments in energy efficiency through buildings' energy renovation and seismic consolidation, with an allocated budget of about EUR 2.9 billion. In addition, EUR 1.2 billion from the European Regional Development Fund and cohesion funds are planned to be spent on energy efficiency in buildings between 2021 and 2027. Action should be taken to increase building renovation for efficiency purposes and put in place more sustainable heating alternatives. ([56])

Romania is still in the very early stages of hydrogen development. To benefit from the PCI hydrogen import corridor between Greece and Central-Eastern Europe, Romania needs to further design and prioritise its cross-border and national hydrogen infrastructure, in close cooperation with neighbouring countries.

Romania currently has limited manufacturing capacity for clean technologies, but several promising initiatives could make the country a significant hub for the production of batteries and key solar components. Since 2016, a lithium-ion battery manufacturer has been operating out of Bucharest with a capacity of 0.2 GWh a year. Supported by an investment agreement with the EIT InnoEnergy (Horizon Europe Programme), in 2022 this Romanian battery producer announced plans to scale up production output to 2 GWh by 2024 and to 8 GWh by 2026. More recently, in June 2023 a Belgian company launched a EUR 1.4billion investment into building a 22 GWh/y lithium-ion battery cell factory in Galati, expected to be fully operational in 2026.

There has been a 150 MW solar module manufacturing unit in Giurgiu since 2012, and a 100 MW assembly line has recently been set up in Transylvania. Two large-scale photovoltaic manufacturing projects (modules, cells and ingot/wafers) led by German and Hungarian companies are also underway.

Romania has low investment levels in research and innovation (R&I). It is an emerging innovator, according to the 2023 European Innovation Scoreboard ([57]). With an overall performance index at 33.1% of the EU average, it is invariably the poorest performing of EU Member States. One of the main weaknesses affecting its overall performance is its low R&I

([56]) Economic and distributional effects of higher energy prices on households in the EU, Publications Office of the EU (europa.eu).

([57]) https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en#european-innovation-scoreboard-2023 expenditure, both in terms of public and private funding. This also applies to R&I supporting Energy Union priorities. Public R&I investments [58] have remained very low (EUR 0.2 million in 2020), under 0.0001% of Romania’s GDP, while private R&I investments [59] were around EUR 7.9 million in 2020.

(58) Source: JRC SETIS (2023), https://setis.ec.europa.eu/publications/setis-research-and-innovation-data_en. The figures do not include EU funding.

(59) Idem.

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

ENERGY DEPENDNCE	Romania				EU			
	2019	2020	2021	2022	2019	2020	2021	2022
Import Dependency [%]	**30.3%**	**28.2%**	**31.6%**	**32.4%**	**60.5%**	**57.5%**	**55.5%**	**62.5%**
of Solid fossil fuels	22.0%	22.0%	23.2%	20.0%	43.3%	35.8%	37.3%	45.8%
of Oil and petroleum products	65.4%	64.6%	68.2%	72.7%	96.7%	96.8%	91.7%	97.7%
of Natural Gas	23.2%	16.6%	22.8%	18.1%	89.7%	83.6%	83.6%	97.6%
Dependency from Russian Fossil Fuels [%]								
of Natural Gas	36.9%	44.8%	77.6%	12.8%	39.7%	41.3%	41.1%	21.0%
of Crude Oil	41.7%	37.2%	31.7%	26.1%	28.8%	26.7%	26.4%	19.5%
of Hard Coal	98.5%	99.2%	99.0%	59.4%	43.5%	49.1%	47.4%	21.5%

DIVERSIFICATION OF GAS SUPPLIES	2016	2017	2018	2019	2020	2021	2022
Gas Consumption (in bcm)	**11.3**	**11.9**	**11.8**	**11.0**	**11.4**	**12.0**	**10.0**
Gas Consumption year-on-year change [%]	-0.3%	5.4%	-0.9%	-6.6%	3.3%	6.0%	-16.9%
Gas Imports - by type (in bcm)	**1.5**	**1.2**	**1.5**	**2.7**	**2.1**	**3.6**	**2.9**
Gas imports - pipeline	1.5	1.2	1.5	2.7	2.1	3.6	2.9
Gas imports - LNG	0.0	0.0	0.0	0.0	0.0	0.0	-
Gas Imports - by main source supplier (in bcm) (1)							
Bulgaria	-	0.0	0.0	0.1	0.1	0.7	2.0
Hungary	0.0	-	0.2	1.6	1.1	0.1	0.4
Russia	1.5	1.2	1.3	1.0	1.0	2.8	0.4

	2019	2020	2021	2022	2023
LNG Terminals - storage capacity m3 LNG					
Number of LNG Terminals	0	0	0	0	0
LNG Storage capacity (m3 LNG)	0	0	0	0	0
Underground Storage					
Number of storage facilities	7	7	7	7	7
Technical Capacity (bcm)	2.9	3.0	2.9	2.9	2.9

ELECTRICITY/ENERGY	2016	2017	2018	2019	2020	2021	2022	2023
Gross Electricity Production (GWh) (2)	**65 103**	**64 296**	**64 876**	**59 623**	**55 935**	**59 470**	**56 003**	-
Combustible Fuels	26 871	28 672	27 308	23 787	20 088	22 162	21 569	-
Nuclear	11 286	11 509	11 377	11 280	11 466	11 284	11 089	-
Hydro	18 536	14 853	18 097	16 006	15 701	17 745	14 360	-
Wind	6 590	7 407	6 322	6 773	6 945	6 576	6 997	-
Solar	1 820	1 856	1 771	1 778	1 733	1 703	1 988	
Geothermal	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Gross Electricity Production [%]								
Combustible Fuels	41.3%	44.6%	42.1%	39.9%	35.9%	37.3%	38.5%	-
Nuclear	17.3%	17.9%	17.5%	18.9%	20.5%	19.0%	19.8%	-
Hydro	28.5%	23.1%	27.9%	26.8%	28.1%	29.8%	25.6%	-
Wind	10.1%	11.5%	9.7%	11.4%	12.4%	11.1%	12.5%	-
Solar	2.8%	2.9%	2.7%	3.0%	3.1%	2.9%	3.6%	-
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)	**- 5 017**	**- 2 894**	**- 2 544**	**1 518**	**2 792**	**2 199**	**1 224**	-
As a % of electricity available for final consumption	-10.6%	-5.9%	-5.1%	3.1%	5.8%	4.4%	2.6%	-
Electricity Interconnection [%]		**6.9%**	**10.0%**	**9.1%**	**9.3%**	**7.6%**	**14.6%**	**18.3%**
Share of renewable energy consumption - by sector [%]								
Electricity	42.7%	42.0%	41.8%	42.6%	43.4%	42.7%	43.7%	-
Heating/cooling	26.9%	26.6%	25.4%	25.7%	25.3%	24.6%	26.3%	-
Transport	6.2%	6.6%	6.3%	7.8%	8.5%	8.9%	8.2%	-
Overall	25.0%	24.5%	23.9%	24.3%	24.5%	23.9%	24.1%	-

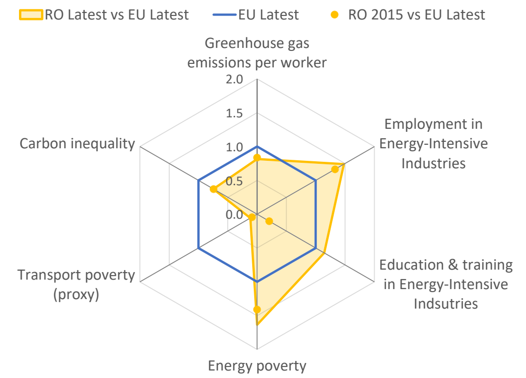
CLEAN ENERGY	2019	2020	2021	2022	2023
VC investments in climate tech start-ups and scale-ups (EUR Mln)	**-**	**-**	**-**	**2.00**	**6.35**
as a % of total VC investment (3) in Romania start-ups and scale-ups	-	-	-	1.8%	5.0%
Research & Innovation spending in Energy Union R&i priorites					
Public R&I (EUR mln)	1.2	0.2	-	-	-
Public R&I (% GDP)	0.001%	0.000%	-	-	-
Private R&I (EUR mln)	24.8	7.9	-	-	-
Private R&I (% GDP)	0.011%	0.004%	-	-	-

(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 Romania's progress in ensuring a fair transition towards climate neutrality and environmental sustainability, particularly for workers and households in vulnerable situations. Romania's green economy is contracting. Between 2015 and 2021, total jobs in the environmental goods and services sector decreased by 9.1% (to around 137 200) (EU: +18.2%), reaching 1.8% of total employment (EU: 2.7%). Also between 2015 and 2022, the greenhouse gas emission intensity of Romania's workforce (see Graph A8.1 and Table A8.1) fell only slightly from 12.0 to 11.7 tonnes per worker but remains below the EU average (14.3 tonnes per worker in 2022) ([60]). Upskilling and reskilling of workers in declining and transforming sectors has increased significantly, contributing to a fair green transition in line with the Council Recommendation on ensuring a fair transition towards climate neutrality ([61]), but it remains below the EU average. The development of green skills remains key to a fair transition and to implementing the REPowerEU plan. Romania's recovery and resilience plan outlines crucial reforms and investments for a fair green transition ([62]), complementing the territorial just transition plans and actions supported by the European Social Fund Plus (ESF+).

Employment in Romania's sectors that are most affected by the green transition remains stable overall and above the EU average, showing the need for active support to be given to green businesses and workers in declining industries. In 2023, employment in Romania's energy-intensive industries ([63]) represented 5.2% of total employment (3.5% in the EU). However, employment in mining and quarrying has fallen by 31.7% since 2015 (to around 49 900 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 (0.3% vs 3.6% in EU in 2023). Still, 84% of small and medium-sized enterprises (SMEs) in the construction sector agreed that skills shortages are holding them back in general business activities ([64]). EUR 117.5 million of ESF+ funds are earmarked for developing green skills and jobs.

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



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

Upskilling and reskilling in energy-intensive industries significantly increased, but labour shortages remain, causing a bottleneck. Skills are key for smooth labour market transitions and preserving jobs in transforming sectors. In energy-intensive industries, workers' participation in education and training increased from 2.3% in 2015 to 12.4% in 2023 (EU: 10.9%). Around a third of Romanian SMEs (36%) think that the skills required for greening business activities are becoming more important (EU: 42%) ([65]). If Romania matches its projected contribution to the EU's 2030 renewable energy target, between 2 000 and 6 000 additional skilled workers will be needed for the deployment of wind and solar energy, which may require an investment in skills of EUR 4.9-6.2 million ([65]). To address these challenges, the ESF+, the Recovery and Resilience Facility and the Just Transition Fund are supporting the development of certification schemes for specialists in the energy performance of buildings and qualifications for construction workers. They also help increase green skills and

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

([61]) The Council Recommendation of 16 June 2022 on ensuring a fair transition towards climate neutrality (2022/C 243/04) covers employment, skills, tax-benefit and social protection systems, essential services and housing.

([62]) See also the 2022 country report (Annex 6) and Annex 3 for an overview.

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

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

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

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

Indicator	Description	RO 2015	RO	EU
GHG per worker	Greenhouse gas emissions per worker – CO_2 equivalent tonnes	12.0	11.7 (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)	4.7%	5.2% (2023)	3.5% (2023)
Education & training EII	Adult participation in education and training (last 4 weeks) in energy-intensive industries	2.2%	12.4% (2023)	10.9% (2023)
Energy poverty	Share of the total population living in a household unable to keep its home adequately warm	13.1%	15.2% (2022)	9.3% (2022)
Transport poverty (proxy)	Estimated share of the AROP population that spends over 6% of expenditure on fuels for personal transport	3.2%	4.3% (2023)	37.1% (2023)
Carbon inequality	Ratio between the consumption footprint of the top 20% vs bottom 20% of the income distribution	2.0	2.0 (2021)	2.7 (2021)

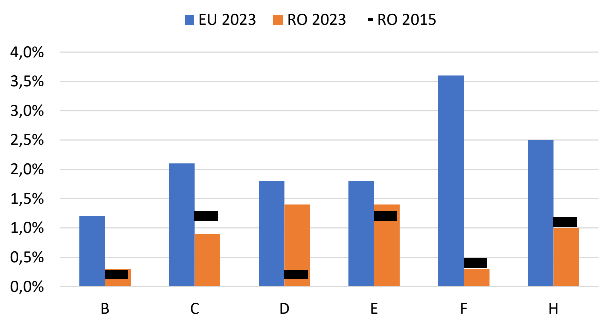
Source: Eurostat (env_ac_ainah_r2, lfsa_egan2d, ilc_mdes01), EU Labour Force Survey (break in time series in 2021), EMPL-JRC GD-AMEDI/AMEDI+ and DISCO(H) projects.

jobs through national level investments in education and training. In Romania, approximately 1.6% of ESF+ funding contributes to green skills and jobs.

Energy poverty indicators worsened significantly in Romania in 2022, having already dropped between 2015 and 2021, and they remain well above the EU average. The share of the population unable to keep their homes adequately warm increased from 13.1% in 2015 to 15.2% in 2022, above the EU average (9.3%) ([66]). The indicator increased by 5.1 percentage points between 2021 and 2022, reversing previous positive developments, 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 Romania. In particular, 29.5% of the population at risk of poverty (AROP) (EU: 20.1%) and 18.2% of lower middle-income households (in deciles 4-5) (EU: 11.6%) were unable to keep their homes adequately warm in 2022. While Romania establishes a national target to reduce energy poverty in its draft updated National Energy and Climate Plan in 2023, the plan lacks information on the quantification of this objective and specific policies and measures. Furthermore, in January 2023, 4.3% of the population at risk of poverty spent a significant proportion of their budget (more than 6%) on private transport fuels (EU: 37.1%) ([67]).

Environmental inequalities remain critical issues in Romania. In 2021, the consumption footprint for 20% of the population with the highest income was 2.0 times higher than the footprint of the poorest 20% (EU: 1.8) (). For both groups, the consumption footprint is highest for food and housing. In addition, in Romania, the average levels of air pollution in 2021 stood above the EU average (14.3 vs 11.4 µg/m3 PM2.5), with all regions exposed to critical levels of air pollution ([68]). This has led to a significant impact on health, affecting vulnerable groups in particular, and around 19 600 premature deaths annually ([69]).

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.

Romania has put forward significant measures to help achieve a fair transition to climate neutrality. It introduced policies to increase green employment and skills, including plans for training and reskilling employees,

([66]) 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.

([67]) 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.

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

([69]) EEA- Air Quality Health Risk Assessment particularly in the regions most affected by the transition ([70]). National entrepreneurship programmes have been presented and contain legislative frameworks expected to play an important role in designing the appropriate green policies and adequately responding to the changes of the labour market due to the green transition. More focus is needed on developing policy measures ensuring proper access to quality employment, education and training, and social services, which are specifically targeted towards the people most affected by the green transition, especially those in vulnerable situations. Furthermore, it is acknowledged that tripartite social dialogue (i.e. discussions between employers, workers and public authorities) to address these challenges needs to be ensured) ([71]).

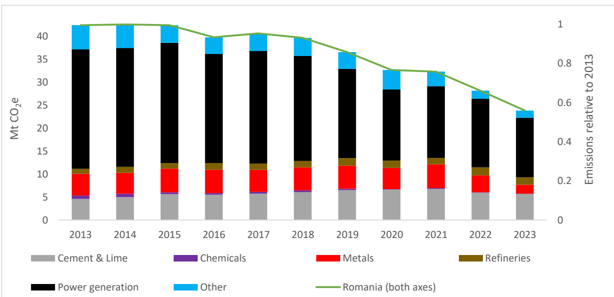
([70]) Measures planned in the Romanian Just Transition Programme but not yet implemented.

([71]) Based on the Employment Committee (EMCO) 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 Romania's competitiveness ([72]). In this regard, waste management is the priority for Romania.

Romania's circular economy transition is not on track to achieve the EU Circular Economy Action Plan goals due to its high-impact economy and poor waste recycling and reuse. The material footprint dropped to 30.5 tonnes per capita in 2022 but remained among the highest in the EU. Total waste production per capita dropped to 7.3 tonnes per capita in 2020 ([73]), still well above the EU average. The 2022 Eco-Innovation Scoreboard listed the country in the 'eco innovation catching-up group', with a score of 84.6. As of September 2023, Romania totalled 55 awarded EU Ecolabel licences and 108 products with the EU Ecolabel, showing a rather low but steadily increasing take-up of products and licences. There is still room to make better use of the potential of the circular economy transition, also to drive the decarbonisation of Romania's industry.

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



Source: European Commission

In 2019-2023, greenhouse gas emissions covered by the EU emissions trading system (ETS) in Romania ([74]) declined by 35%. In 2023, 54% of greenhouse gases emitted by Romania's ETS installations came from power generation, slightly below the EU average (57%). Cement and lime accounted for about 24%, the metals industry for 8%, and refineries and other industries for 7%, each. Between 2019 and 2023, the industry sectors registered a higher reduction (37%) than power generation (33%), resulting in a 35% overall emissions decrease. Since 2013, greenhouse gas emissions from power generation have declined by half%. Although ETS emissions from the 'other' sectoral category ([75]) have decreased by 30%, emissions from the metals industry have increased by 59%, and emissions from cement and lime have grown by 24%. This has resulted in an overall greenhouse gas reduction of 44% since 2013.

Romania is not keeping up with the EU average resource efficiency and productivity levels but is among the countries that are most resilient against supply chain disruptions. The secondary material use rate is the lowest among EU countries and stood at 1.4% in 2022. Resource productivity stagnated between 2017 and 2022 and the gap with the EU average remained wide – 0.94 purchasing power standards (PPS) per kilogram versus 2.45 PPS/kg on average. Resource productivity expresses how efficiently the economy uses material resources to produce wealth. Improving resource productivity can help minimise negative impacts on the environment and reduce dependence on volatile raw material markets. Romania was dependent on imports for only 10.6% of materials used in 2022, making it one of the countries that are least vulnerable to supply chain disruptions in the EU. The Romanian national energy and climate plan includes few references to circular economy in the national objectives and targets.

Romania is at risk of missing both the 2025 target for municipal waste recycling and the 2035 target for landfilling. The municipal waste recycling rate stood at 11.3% in 2021, the lowest share reported in the EU. Romania is among the countries that are not on track to meet the packaging and municipal waste recycling targets for 2025. The recycling rate of plastic

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

([73]) It is yet to be confirmed whether the trend was influenced by the Covid-19 crisis.

([74]) This analysis excludes air travel. The data for 2023 reflects verified emissions as of 14 May 2024 and may still be revised due to late data submissions. 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.

([75]) Other than cement and lime production, chemicals, metals, refineries, and power generation.

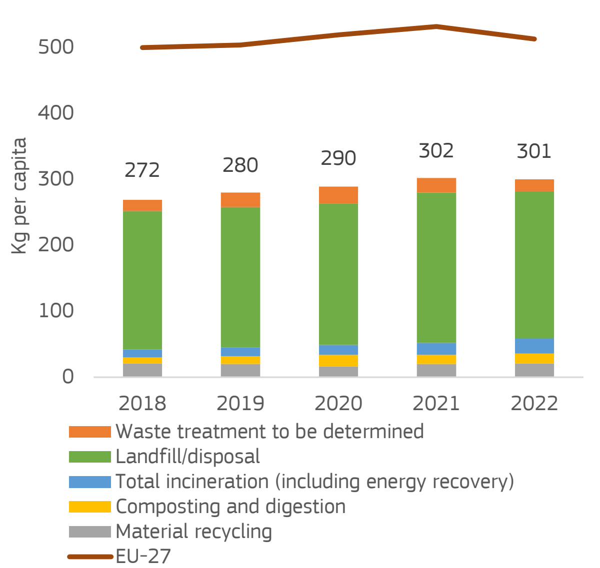
Table A9.1: **Circularity indicators**

	2018	2019	2020	2021	2022	2023	EU-27	Latest year
Industry								
Resource productivity (purchasing power standard (PPS) per kilogram)	0.9	0.8	0.8	0.8	0.9	-	2.5	2022
Circular material use rate (%)	1.6	1.4	1.5	1.4	1.4	-	11.5	2022
Eco-innovation index (2013=100)	84.0	77.6	80.5	81.5	84.6	-	121.5	2022
Recycling of plastic packaging (%)	43.0	31.1	30.1	31.6	-	-	40.7	2021
Cost of air emissions from industry (EUR bn)	13.5	11.8	10.9	11.0	-	-	352.7	2021
Built environment								
Recovery rate from construction and demolition waste (%)	74.0	-	88.0	70.1	-	-	89.0	2020
Soil sealing index (base year = 2006)	103.9	-	-	-	-	-	103.4	2018
Non-residential floor area (m^2 per capita)	4.1	4.2	4.3	-	-	-	18.0	2020
Waste backfilled (%)	21.8	-	23.2	-	27.1	-	9.9	2020

Source: Eurostat, European Environment Agency

packaging was 30.2% in 2020 – well below the 50% target. Furthermore, Romania's e-waste recycling has decreased in the last few years, going from 83.4% in 2017 to 76% in 2021. The country is still at risk of missing the 2035 target for landfilling. There is a need for action to solve the issue. Innovation in waste treatment technologies is still low, as illustrated by the fact that only 5 new patents were registered in 2021.

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



Source: Eurostat

Romania's building stock is growing steadily, showing an opportunity for using existing buildings more efficiently. For instance, in the first 9 months of 2023, Romania's building permits index – based on useful floor area – stood at 136.4 on average, showing an increase in construction activities since 2015 ([76]). In 2020, the residential floor area per capita stood below the EU average – 25.1 versus 54.4 m^2 per capita – and increased at a higher pace than the EU average. A similar trend was reported for non-residential floor area per capita, which still stood below the EU average – 4.3 versus 18.0 m^2 per capita – in 2020.

There is still room for improving construction and demolition waste management and wastewater treatment. The amount of waste generated from construction and demolition activities per capita fluctuated between 2012 and 2020 and remained well below the EU average. Romania's recovery rate increased to 88% in 2020, achieving the Waste Framework Directive's target for 2020. Furthermore, the population connected to at least secondary wastewater treatment was only 53% in 2021, well below the EU level. Alignment with the higher EU standards must be prioritised.

The built environment impacts the climate, and there is need for both mitigation and adaptation strategies. Important mitigation strategies include whole-life carbon approaches for buildings and Romania is yet to include them in its regulatory framework.

([76]) 2015=100.

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 Romania's performance on digital skills, digital infrastructure/connectivity and the digitalisation of businesses and public services. Where relevant, it makes reference to progress in implementing the Recovery and Resilience Plan (RRP). Romania allocates 21.8% of its total RRP budget to digital (EUR 5.8 billion) [77]. Under Cohesion Policy, an additional EUR 3 billion (10% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation [78].

The Digital Decade Policy Programme sets out a pathway for EU's successful digital transformation by 2030. Romania'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 [79]. 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 [80]. Digital technologies, infrastructure and tools all play a role in addressing the current structural challenges, including strategic dependencies, cybersecurity and climate change.

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

(78) 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.

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

(80) 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.

Lack of basic digital skills and sufficient ICT specialists in the workforce are key challenges for Romania. The country scores considerably below the EU average on both indicators. Only 28% of people aged between 16 and 74 have at least basic digital skills, compared with an EU average of 56%. Moreover, this percentage has not increased over the past 3 years. The proportion of ICT specialists in total employment is 2.6%, showing stagnation and lagging significantly behind the EU average of 4.8%. However, it should be noted that Romania scores 6th highest in the EU regarding the proportion of ICT graduates (6.8% of all higher education graduates) and that the proportion of female ICT specialists (26%) is also one of the highest in the EU. Romania is implementing a number of RRP measures expected to lead, in the medium and long term, to progress in this area, such as a new legislative framework for the digitalisation of education, a grant scheme to upskill/reskill employees in firms, support for libraries to become hubs for digital skills, support for the digitalisation of universities, and support for educational establishments with a high number of students at risk of dropout.

Gigabit connectivity is widespread in Romania, however 5G deployment is delayed. The country was fast to deliver coverage with high capacity network (VHCN). In particular, coverage with fibre to the premises (FTTP) stands out at 95% compared to an EU average of 64%. Take-up has continued to increase and it is now significantly above the EU average, including for connections of 1 Gbps or higher. By contrast, 5G coverage is well below the EU average, at 33% compared to an EU average of 89%. Several measures implemented under the RRP are expected to drive progress in this area, including an auction of 5G licences, the new 5G Network Security Law, the adoption of the national cybersecurity strategy, and the implementation of various recommendations set out in the EU connectivity toolbox. However, these measures are still to show results on the ground and progress is expected to be very slow, as confirmed by the national Digital Decade strategic roadmap submitted by the Romanian authorities.

Romania scores poorly on the digitalisation of businesses, exhibiting significant but untapped potential for innovation, including in the ICT sector. The share of SMEs with at least a basic level of digital intensity as well as the take-up of advanced technologies – like cloud computing services, artificial intelligence, and data analytics – remain considerably below the EU average. Only 27% of SMEs have at least a basic level of digital intensity, compared to an EU average of 58%. However, the digitalisation of SMEs is further supported through the RRP and cohesion funds. The ICT sector is one of the most important sectors in the Romanian economy, but it is still not sufficiently innovation driven. Several ongoing RRP measures are expected to lead to progress in this area, including Romania's participation in the important project of common European interest on low-power processors and semiconductor chips, as well as various direct support schemes (grants and financial instruments) for the digitalisation of businesses. Moreover, the European Regional Development Fund will finance investments in the digitalisation of SMEs, both at national level, through support for digital innovation hubs [81], and at regional level, via targeted investments in SMEs included in the eight regional programmes. In 2022, 3.6% of enterprises in Romania reported ICT service outage due to cyberattacks (e.g. ransomware attacks, denial of service attacks). Over the same year, 39.6% of enterprises developed or reviewed their ICT security policy within the previous 12 months.

Digital public services are a key challenge for the country. Romania scores significantly below the EU average for availability of digital public services for citizens as well as for businesses. Moreover, only 25% of Romanian online users engage actively with e-government services, compared with an EU average of 75%. Various RRP measures are expected to lead to significant progress in this area, for example the entry into force of the legislative framework necessary for creating a government cloud, including an emergency ordinance setting up the governmental cloud and the Interoperability Law. Romania has pre-notified ROeID as its first electronic identification (eID) scheme. Moreover, the RRP includes measures to deliver electronic ID cards to 5 million citizens by 2026. Via public and private entities, Romania is also involved in two large-scale pilot projects testing the European Digital Identity Wallet in everyday use. Moreover, the European Regional Development Fund continues to support the digitalisation of public services for the benefit of citizens and businesses, as well as the necessary ICT (digital) infrastructure, at both national and regional level. Finally, Romania also scores significantly below the EU average regarding access to electronic health records. A centralised access service for citizens does exist, but the health data available could be significantly extended, and access services should be rolled out to the entire population, and to different types of healthcare providers. The RRP envisages significant investments in e-Health infrastructure, including the platform which supports the access to health records and telemedicine services connecting patients and caregivers. The European Regional Development Fund will also finance e-health applications and software development, while the European Social Fund Plus will support the provision of digital skills training to health professionals.

[81] The European Regional Development Fund will finance 50% of the eligible cost of the digital innovation hubs, in synergy with the Digital Europe Programme.

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

	Romania 2022	Romania 2023	Romania 2024	EU 2024	Digital Decade target by 2030 (EU)
Digital skills					
At least basic digital skills	**28%**	**28%**	**28%**	**56%**	**80%**
% individuals	2021	2021	2023	2023	2030
ICT specialists (1)	**2.6%**	**2.8%**	**2.6%**	**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	**87%**	**96%**	**95%**	**79%**	**100%**
% households	2021	2022	2023	2023	2030
Fibre to the premises (FTTP) coverage (2)	**87%**	**96%**	**95%**	**64%**	**-**
% households	2021	2022	2023	2023	
Overall 5G coverage	**25%**	**27%**	**33%**	**89%**	**100%**
% populated areas	2021	2022	2023	2023	2030
Digitalisation of businesses					
SMEs with at least a basic level of digital intensity	**22%**	**NA**	**27%**	**58%**	**90%**
% SMEs	2021		2023	2023	2030
Data analytics	**NA**	**NA**	**22%**	**33%**	**-**
% enterprises			2023	2023	
Cloud	**11%**	**11%**	**16%**	**39%**	**-**
% enterprises	2021	2021	2023	2023	
Artificial intelligence	**1%**	**1%**	**2%**	**8%**	**-**
% enterprises	2021	2021	2023	2023	
AI or cloud or data analytics (3)	**NA**	**NA**	**29%**	**55%**	**75%**
% enterprises			2023	2023	2030
Digitalisation of public services					
Digital public services for citizens	**44**	**48**	**52**	**79**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Digital public services for businesses	**42**	**45**	**50**	**85**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Access to e-health records	**NA**	**57**	**59**	**79**	**100**
Score (0 to 100)		2022	2023	2023	2030

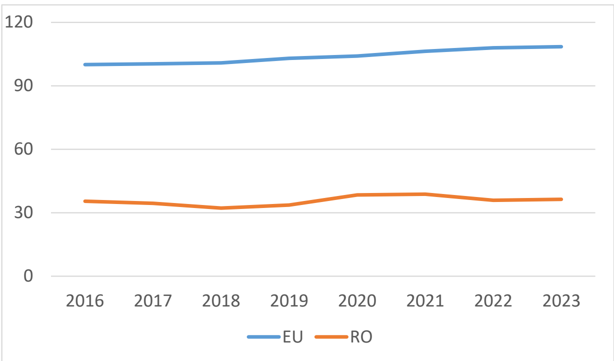
(1) The 20 million target represents about 10% of total employment.
(2) The fibre to the premises coverage indicator is included separately as its evolution will also be monitored separately and taken into consideration when interpreting VHCN coverage data in the Digital Decade.
(3) At least 75% of EU 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 Romania's research and innovation system, which is essential for delivering the twin transition and ensuring long-term competitiveness.

Romania is an 'emerging innovator' with the weakest innovation performance in the EU. Romania's innovation performance is only 33.1% of the EU average and the gap between Romania's performance and the EU's is widening, according to the 2023 European Innovation Scoreboard ([82]).

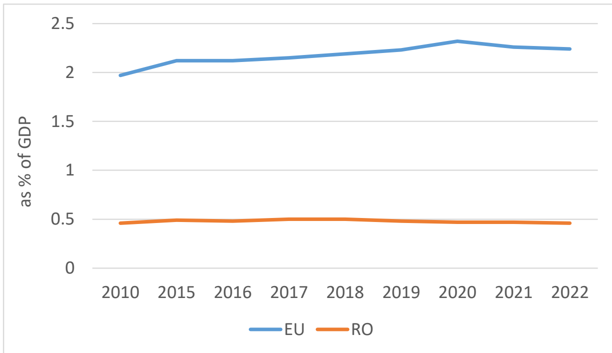
Graph A11.1: **Innovation performance 2016-2023**



Source: European Innovation Scoreboard, 2023

Romania's total R&D intensity ([83]) is the lowest in the EU. This, coupled with the high degree of fragmentation in the Romanian public research system, has led to a weak public science base. At 0.46% of GDP in 2022, R&D intensity remains far below the EU average (2.24%) and Romania's own target of 2% of GDP by 2027 ([84]). Public expenditure on R&D has been decreasing in recent years and was 0.17% of GDP in 2022, just a quarter of the EU average (0.72%). This significant underfunding combined with the absence of multiannual budgeting and an insufficiently developed process of performance-based allocation creates unfavourable conditions for the research and innovation (R&I) community ([85]). A promising sign is the government's reaffirmation of its intention to increase public R&D expenditure to 1% of GDP by 2027 ([86]) and its commitment to introducing a biannual funding mechanism that provides for regular evaluation mechanisms.

Graph A11.2: **R&D intensity 2010-2022**



Source: Eurostat, 2023

The lack of human capital for R&I is holding back Romania's competitiveness and its move towards a knowledge economy. The number of researchers (full-time equivalents) employed by the public sector is stagnating significantly below the EU average at the bottom end of all Member States (1.55 in Romania in 2021 compared to an EU average of 4.15). This problem is exacerbated by the lowest share of population aged 25-34 who have successfully completed tertiary education ([87]) as well as by poor working conditions and career prospects for researchers. The recovery and resilience plan includes reform and investment measures to increase the attractiveness of research careers and attract researchers from abroad ([88]). Similar measures have been and will be supported under the cohesion policy.

([82]) 2023 European Innovation Scoreboard (EIS), country profile: Romania https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-ro.pdf The EIS provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems.

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

([84]) Government of Romania (2022), Strategia Națională de Cercetare, Inovare și Specializare Inteligentă 2022-2027, https://www.mcid.gov.ro/wp-content/uploads/2022/12/strategia-na-ional-de-cercetare-inovare-i-specializare-inteligent-2022-2027.pdf.

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([85]) European Commission (2022): PSF Country review of the Romanian Research and Innovation System.

([86]) See National Strategy for Research, Innovation and Intelligent Specialisation 2022-2027 and National RDI Plan 2022-2027- PNCDI IV.

([87]) In 2022, 24.7% of the population aged 25-34 successfully completed tertiary education against the EU average of 42%. (See also Annex 15.)

([88]) E.g. a reform of research careers, a measure to attract human resources from abroad, support for Marie Sklodowska Curie Fellowships, foundation of regional career guidance centres.

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

Romania	2010	2015	2020	2021	2022	EU average (1)
Key indicators						
R&D intensity (GERD as % of GDP)	0.46	0.49	0.47	0.47	0.46	2.24
Public expenditure on R&D as % of GDP	0.28	0.27	0.19	0.19	0.17	0.73
Business enterprise expenditure on R&D (BERD) as % of GDP	0.18	0.21	0.28	0.29	0.28	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	3.2	3.5	6	:	:	9.6
PCT (Patent Cooperation Treaty) patent applications per billion GDP (in PPS)	0.2	0.3	0.17	:	:	3.4
Academia-business cooperation						
Public-private scientific co-publications as % of total publications	3.9	4.2	5.99	6.12	6.35	7.6
Public expenditure on R&D financed by business enterprise (national) as % of GDP	0.037	0.033	0.024	0.026	:	0.054
Human capital and skills availability						
New graduates in science & engineering per thousand pop. aged 25-34	18.4	11.2	12.0	12.6	:	16.9
Public support for business enterprise expenditure on R&D (BERD)						
Total public sector support for BERD as % of GDP	0.057	0.045	0.029	:	:	0.204
R&D tax incentives: foregone revenues as % of GDP	:	0.006	0.008	:	:	0.104
Green innovation						
Share of environment-related patents in total patent applications filed under PCT (%)	12.9	5.9	7.8	:	:	14.7
Finance for innovation and economic renewal						
Venture capital (market statistics) as % of GDP	0.013	0.002	0.005	0.009	0.012	0.085
Employment share of high growth enterprises measured in employment (%)	:	5.86	5.21	:	:	12.51

(1) EU average for the latest 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 Europe

Weak science-industry collaboration remains a challenge. Public-private scientific co-publications as a percentage of total number of publications have increased over the past decade but remain below the EU average (6.35% compared to 7.6% in 2022). Deficiencies in the public science system combined with a lack of incentives for public research institutions to seek industry collaborators result in this below average outcome [89]. While the recovery and resilience plan and cohesion policy programmes include measures to improve the regulatory framework and incentivise collaboration, it still needs to encourage public research entities to engage in entrepreneurial activities and technology and knowledge transfer [90].

Innovation activity and R&D absorption capacity at company level are limited. Business enterprise expenditure on R&D (BERD) has been stagnating (0.28% of GDP compared to EU average of 1.48% in 2022) and Romania's performance in terms of patents applications remains the lowest in the EU. Also, the scaling up of innovative domestic firms is hindered by the limited size of the local venture capital market [91]. Under the cohesion policy and RRP, measures supporting innovation at firm level, start-ups and innovative clusters should address some of the deficiencies [92].

[89] European Commission (2022): PSF Country review of the Romanian Research and Innovation System.

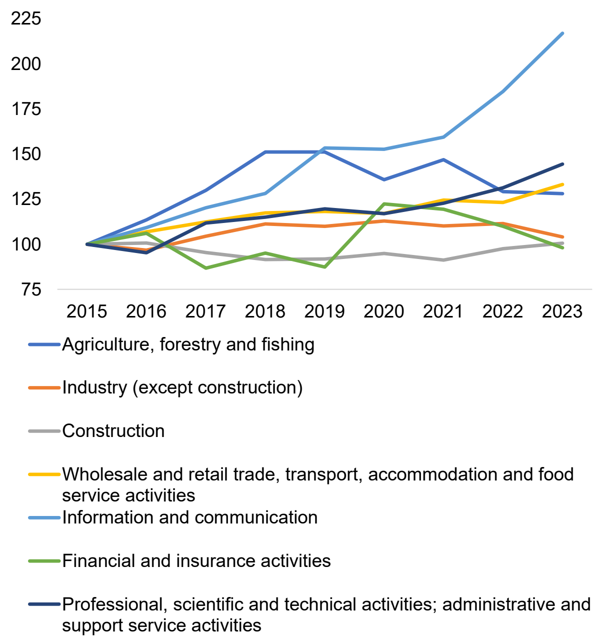
[90] JRC (2024) - Strategic evaluation of the technology transfer and IPR protection systems of Bulgaria, Croatia and Romania and recommendations for their enhancement.

[91] Invest Europe: venture capital investments as % of GDP.

[92] https://rostartup.com/2022/09/28/starting-up-and-scaling-up-romania-the-two-rostartup-reports-that-put-the-romanian-entrepreneurial-ecosystem-under-the-microscope/

High productivity growth over the past two decades has placed Romania on a strong convergence path with the EU. Romania remains one of the top performers in the EU in terms of productivity growth. Labour productivity in terms of GDP per person employed grew by 4% in 2022 (the fourth highest growth rate in the EU) and 3% in 2023 (the highest growth rate in the EU) ([93]). This has helped Romania reach a level of 78% of the EU average in terms of real GDP per capita in PPP in 2023 ([94]). Despite this impressive performance, real GDP per capita in 2022 (EUR 10 080) remained less than 35% of the EU average (EUR 28 950) ([95]).

Graph A12.1: **Labour productivity (gross value added per person employed) by sector (2015=100)**



Source: Eurostat

Investment is a major contributing factor to productivity growth performance. In 2023, both net private and public investment additions to the capital stock were in the top three in the EU and double the EU average. Looking at the average figure for the last 5 years, Romania's net public investment was the second highest in the EU, while net private investment's evolution was more modest (Romania was at the bottom of the best performing quartile in the EU) ([96]). The flow of EU money from the Recovery and Resilience Plan (RRP) and the structural funds greatly boosted net investment in 2023, especially in infrastructure. Civil engineering works were 17% higher year-on-year.

Industry and construction represent a relatively high share of the economy and contribute to its diversification and resilience. Despite massive deindustrialisation during the 1990s (when industry fell from one half to one third of gross value added (GVA) ([97]), Romania remains relatively industry-rich. In 2022, industry still represented 22.8% of GVA (well above the EU average of 20.5% ([98]). Manufacturing (the core of industry) leads in productivity metrics. Industry overall performs modestly, reflecting lower value added specialisation (see Graph A12.1). Real labour productivity per person in industry decreased in 2019 and 2020 but grew again in 2021 (1.1%) and 2022 (1.4% – well above the EU average of 0.4%). Romania has, in relative terms, one of the biggest construction sectors in the EU. Construction's share of GVA was the second highest in the EU in 2022 and the highest in 2023 ([99]).

Industry is declining in relative terms while construction's share remains constant. Construction has held up better than industry. Construction has represented 7-8% of GVA in the last 8 years. Industry declined from 30.4% of GVA in 2012 (the second highest share in the EU) to 25.4% in 2018 (the fifth highest share in the EU) to a low of 21.4% in 2023 (tenth place in the EU). ([100]).

Industry has been contributing significantly to decarbonising the economy. Total greenhouse gas emissions fell by an impressive 50% in 1990-1999 and reached -60% in 2020 ([101]). The sweeping deindustrialisation of the

([93]) 2023 Autumn Forecast. Where no source for the data is given, the source is the table at the end of this annex.

([94]) Eurostat, Relative volumes of GDP per capita for 2023.

([95]) Eurostat.

([96]) Commission calculation based on Eurostat data.

([97]) World Bank data.

([98]) Eurostat, Gross Value Added by Industry.

([99])Eurostat, Gross Value Added by Industry.

([100]) Eurostat, *Gross Value Added by Industry* for all figures in this paragraph.

([101]) World Bank data.

1990s, rather than energy efficiency, is the main reason for this. Industry continued to shrink in relative terms (and thus to contribute to decarbonisation) from 2012 onwards (as shown above). Emissions from manufacturing and energy production dropped by almost 4 million tonnes in 2022, thus contributing to achieving Romania's lowest total level of emissions in the last decade (54.4 million tonnes, 18% lower than 2013) ([102]).

Plans for further decarbonising industry are based on increasing renewables and nuclear capacities. Installed renewable electricity capacity is almost 60% of electricity consumption (above the EU average of 50%). The Competition Council has conducted two studies, in cooperation with 80 institutions, on barriers to the deployment of renewables. The first study focused on the entire permitting process. 80% of required authorisations are linked to construction. If the study recommendations are implemented, the approval time will be cut from 544 days to 180 days. One of the main recommendations is to remove the 50-hectare legal cap for degraded land when allocated to renewables. The second study focused on connecting to the grid. Getting connection authorisation is crucial for a renewables project ([103]). Significant investment is under way in nuclear and this will boost its share in the energy mix from the current 20% to 36% by 2030.

The authorities' plans to cut greenhouse gas (GHG) emissions by 78% in 2030 are ambitious but need a check with the stakeholders. EU financing for greening the economy in the current multiannual financial framework is significant. More than 40% of the EUR 28.5 billion funding from the Recovery and Resilience Facility (RRF) and 30% of the structural funds are earmarked for greening. This level of financing is recognised as a major reason for placing the bar well beyond the Green Deal target of -55% ([104]). As the OECD has indicated, serious planning and administrative capacity is needed to deliver on the greening commitments (see Annex 13 and 17). Involvement of stakeholders is also needed because Romania is still (relatively) industry-rich and decarbonisation becomes more difficult as one reaches low levels of GHG emissions. Industry needs significant financing to decarbonise. One large steelmaking company may need investments up to EUR 1 billion to transition to green steel by 2030.

Romania can help reduce the EU's strategic dependencies. The country may be a source of critical raw materials (CRMs) for the green transition, but their certification and exploitation remain difficult. The national strategy on raw materials and the Mining Law have been awaiting governmental approval since spring 2023. Romania had a mining tradition but the extractive industry all but disappeared in the pre-accession period, as 246 mines were closed. Romanian authorities indicate the following barriers to the exploitation of CRMs: absence of certified resources or confidentiality of data; state companies lack the means to invest, including in the clean technologies needed; lack of ownership titles for mining sites; environmental issues (there are a significant number of protected and sensitive areas, and communities are sceptical regarding mining); lack of skilled staff; difficulties in attracting private investment because it requires predictability and attractive taxation. Environmental concerns are preventing the development of a project with valid licenses.

Market surveillance is fragmented and lacks resources. No fewer than 16 authorities are involved in market surveillance. All the resources they collect go to the general budget and little comes back. Resources are needed for staffing and tests. Testing possibly non-compliant products is very expensive (e.g. it costs EUR 30 000 to test a washing machine for energy efficiency, according to the authorities). More extensive cooperation between competent authorities and customs could improve market surveillance. Romania solved 91% of the SOLVIT cases (65) it handled as lead centre, above the EU average of 88.3%.

Access to the Single Market is an opportunity that many SMEs in Romania could better exploit. Romania's trade integration into the Single Market is below the EU average (30% of GDP vs 43% of GDP). Over the last 20 years, trade in goods has increased by 10% per year. The bulk of intra-EU exports in value terms (70%, which is above the EU average) came from large companies. This means that SMEs are not so

([102]) Eurostat, Air emissions by activity.

([103]) The studies may be consulted on the website of the Competition Council, http://www.consiliulconcurentei.ro.

([104]) OECD, *Economic Survey of Romania*, 2024 (forthcoming). Discussions with the authorities during the GROW country mission (November 2023) went along the same lines.

present in the Single Market ([105]). The fact that Romania has still not been admitted as a full member of the Schengen area (even though it has met the technical criteria since 2011) is a significant obstacle for the business environment and to attracting foreign investment. Partial (air and sea) access to Schengen has been granted as of March 2024.

Acting on the restrictive regulated professions may boost productivity. Regulatory restrictions in a number of professions remain stricter in Romania than the EU average, creating additional costs, especially for SMEs, while lowering productivity. This applies in particular to civil engineers, architects, accountants, tourist guides, and notaries . Lawyers are also subject to legal form, incompatibility rules and multidisciplinary restrictions, all of which affect the potential of the legal sector for innovation. The fragmented system regulating civil engineers and their activities seems to be a barrier to their free movement and hampers the efficiency of service provision.

The effects of the measures implemented to improve public procurement performance cannot be observed yet. Indeed, the 2023 data set shows high levels of single bids (45%, EU average 29%); negotiated procedures without prior publication of an award notice (23%, the second highest level in the EU; EU average 8%); unsuccessful bids (44% (the highest rate in EU); and price-only award criteria (83%, EU average 66%) ([106]). The level of single bids is particularly worrying. Indeed, the indicator's increase on 2022 values means that Romania was not able yet to stop or reverse the trend concerning the decrease of competition in national public procurement markets. The capacity of SMEs to place bids should be improved, but there is also a lot for the authorities to improve. Entrepreneurs regularly ask for better-prepared tenders (more regular, with sufficient time to prepare, better aligned with inflation developments, etc.) ([107]).

Romania is planning to use public procurement as a strategic tool to secure social, environmental and innovation benefits through the implementation of the National Strategy in the field of public procurement 2023-2027**.** However, little progress has been made to date in green procurement and almost none in social and innovative procurement.

The business environment has gradually improved, but recent fiscal measures have again shown that policymaking is unpredictable. Improvements in overall business conditions over the last decade combined with relatively low taxes and cheap labour have been the factors behind the rapid capital accumulation and speedy convergence of the economy, partly compensating for other disadvantages ([108]). Taxation for SMEs is still one of the lowest in the EU. The fiscal consolidation measures adopted at the end of 2023 lacked proper planning and consultation. The legal obligation for a 6-month period before a tax measure enters into force was disregarded ([109]). Attracting long-term investors to extract gas resources from the Black Sea or mineral resources requires predictability. The right balance between SMEs' contribution to the public purse and reform of public services has yet to be struck. The SMEs' annual tax contribution to the budget is very small: RON 2-3 billion (EUR 0.4-0.6 billion).

The business environment remains dynamic, but significant barriers persist. Figures for business registration are above the EU average and show that the business environment is dynamic. The same picture is conveyed by the broader business birth and death figures for 2021 ([110]). The 2023 EIB Investment Survey showed that the main barriers to long-term investment are uncertainty (86% of companies), energy costs (81%) and skilled staff (79%).

([105]) Eurostat.

([106]) The 2024 Single Market and Competitiveness Scoreboard.

([107]) Sources: SME associations and the GROW fact-finding mission.

([108]) The Heritage Foundation's Index of Economic Freedom shows that Romania has made marked progress in the last 20 years. Moreover, tax burden is clearly the area where the country scores best. For labour-cost levels, Eurostat data for 2022 show Romania in the last but one position (EUR 9.5 per hour).

([109]) The same analysis of the lack of predictability can be found in IMF, October 2023, *Article IV consultation*; and OECD, 2024, *Economic Survey of Romania* (forthcoming). The IMF stated that 'ad hoc tax changes in response to urgent fiscal needs create uncertainty and undermine the ability to plan.'

([110]) Eurostat.

Tax setting is key to SME financing but impacts scaling-up and companies' capitalisation. Low taxation ([111]) and high policy uncertainty have made retaining profits in the company uninteresting. Owners tend to lend money to the company when in need of financing. This explains the high level of self-financing in the SME area. This tax-induced behaviour is important for understanding the low levels of capitalisation of Romanian companies as well as their scaling-up, because setting up new firms is preferable to expanding an existing entity. The number of companies with negative capital is the second highest in the EU – only 20% of active companies are bankable.

Access to finance remains an issue for SMEs. Bank credit to the private sector remains among the most expensive in the EU ([112]), which makes alternative options like self-financing and trade credit attractive. Romania has the highest share of finance-constrained firms in the EU ([113]). 65% of Romanian companies report access to finance as an important barrier to long-term investment (well above the EU average of 44%). The 2023 EIF SME Access to Finance Index ranks Romania 25th (down from 20th place in 2022, which was due to generous COVID-19-related support measures). The bank loan segment offers particular scope for improvement. In 2022, 8% of companies in Romania used bank loans to finance their activity (the EU average was 46%). The situation is completely different for self-financing, which is used by 93% of companies in Romania and 26% of firms in the EU. 38% of companies in Romania would be willing to take out a fixed-rate loan ([114]). In 2021, trade credit to non-financial companies amounted to RON 337 billion (EUR 68 billion), which is 2.3 times the outstanding value of banking loans granted to non-financial companies (RON 148.5 billion/EUR 29.8 billion).

Romania is in the preliminary stage of implementing the components needed to connect to the Once-Only Technical System. As part of the Single Digital Gateway Regulation, 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 Romanian competent authorities is crucial for the system to function smoothly and to reduce administrative burden.

([111]) For many years, small companies (below a certain ceiling which is usually generous but often changed) paid a 1-3% turnover tax and 5% dividend tax. That resulted in a total charge of around 8% when taking capital out of a company.

([112]) Only Hungary had a significantly higher interest rate for a loan relevant for the SMEs (under EUR 250 000) in the 2023 edition of the EIF SME Access to Finance Index (11.9% vs 8.4%).

([113]) EIB Investment Survey 2023.

([114]) National Bank of Romania, December 2023, *Survey on Access to Finance*, p. 13.

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

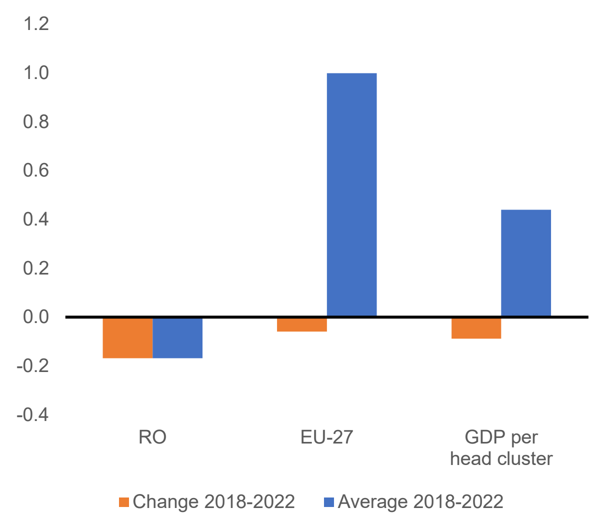
Romania							
POLICY AREA	**INDICATOR NAME**	**2019**	**2020**	**2021**	**2022**	**2023**	**EU27 average***
HEADLINE INDICATORS							
Economic Structure	Net Private investment, level of private capital stock, net of depreciation, % GDP[1]	4,7	5,7	6,1	6,5	7,8	**3,8**
	Net Public investment, level of public capital stock, net of depreciation, % GDP[1]	1,5	2,5	2,1	2,2	3,2	**1,2**
	Real labour productivity per person in industry (% yoy)[2]	-0,2	-1,1	1,1	1,4	-0,4	**-1,24**
Cost competitiveness	Nominal unit labour cost in industry (% yoy)[2]	9	3	3,8	6,9	19,9	**9,83**
SINGLE MARKET							
Single Market integration	EU Trade integration, % (Average intra-EU imports + average intra EU exports)/GDP[2]	30,6	28,7	31,6	33,2	30,4	**42,9**
Compliance	Transposition deficit, % of all directives not transposed[3]	1,1	1,1	2,9	0,3	0,2	**0,7**
	Conformity deficit, % of all directives transposed incorrectly[3]	1,3	1,3	0,9	1	1,2	**1,1**
	SOLVIT, % resolution rate per country[3]	98,4	88,4	86,9	93,2	91,0	**88,3**
	Number of pending infringement proceedings[3]	24	36	37	30	32	**25,9**
Restrictions	EEA Services Trade Restrictiveness Index[4]	-	-	-	-	-	**0,05**
Public procurement	Single bids, % of total contractors[3]	31	41	33	42	45	**28,6**
	Direct Awards, %[3]	14	22	17	23	23	**8,1**
ECONOMIC STRUCTURE							
Shortages	Material Shortage (industry), firms facing constraints, %[5]	2,0	3,5	6,5	6,8	3,4	**17,2**
	Labour Shortage using survey data (industry), firms facing constraints, %[5]	13,1	8,5	9,8	11,6	10,0	**23,3**
	Vacancy rate, % of vacant posts to all available ones (vacant + occupied)[2]	1	0,6	0,8	0,9	0,8	**2,5**
Strategic dependencies	Concentration in selected raw materials, Import concentration index based on a basket of critical raw materials[6]	0,17	0,18	0,19	0,19	0,19	**0,22**
	Installed renewables electricity capacity, % of total electricity produced[2]	0,5	0,5	0,6	0,6		**50**
BUSINESS ENVIRONMENT - SMEs							
Investment obstacles	Impact of regulation on long-term investment, % of firms reporting business regulation as major obstacle[7]	26,7	29,1	16,8	22,0	30,0	**22,2**
Business demography	Bankruptcies, Index (2015=100)[2]	71,9	67,5	88,3	37,4	35,3	**105,6**
	Business registrations, Index (2015=100)[2]	146,8	123,4	161,3	183,1	168,9	**120,2**
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment[8]	-	13	12	12	15	**15**
	Payment gap - public sector, difference in days between offered and actual payment[8]	-	13	9	15	16	**16**
	Share of SMEs experiencing late payments in past 6 months, %[9]	53,1	52,0	52,6	45,2	49,4	**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]	0,20	0,21	0,27	0,37	-	**0,49**
	EIF Access to finance index - Equity, Composite: VC/GDP, IPO/GDP, SMEs using equity, index values between 0 and 1[10]	0,09	0,06	0,10	0,08	-	**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

ANNEX 13: PUBLIC ADMINISTRATION

Romania'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. Perceived government effectiveness in Romania is still clearly below the EU average and has deteriorated in recent years (Graph A13.1). The public administration's ability to make significant progress is limited by a fragmentation of reform initiatives and strategic direction, insufficient coordination and capacity and high turnover of staff. These challenges have led to delayed implementation of some measures of the recovery and resilience plan (RRP) ([115]).

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 Romania (EU countries are ranked in terms of their GDP per head and grouped into three equally sized clusters).
Source: Worldwide Governance Indicators.

Romania's e-government performance is improving, but it remains well below the EU average (Table A13.1). The country also ranked below the EU average for the provision of public services. However, the situation has gradually improved in recent years: 47.0% of people surveyed rated the services favourably in 2022, up from 36.0% in 2017 ([116]). Romania also ranks below the EU average for the openness of government data (Table A13.1). There has been progress in adopting the methodological norms for free access to information on legislation, although no visible improvement in publishing public officials' asset and income declarations. The bill to update the freedom of information act has not been approved.

Romania is taking steps to improve the use of evidence in policymaking. In 2023, efforts continued to consolidate and expand a community of government experts on regulatory impact assessments. Training on *ex ante* impact assessments was organised, and several ministries have carried out impact studies. The interaction with the research community usually occurs through different research institutes or through the development of joint projects that are technically supported by research institutes. Consolidating the legislative process and ensuring public consultations, however, still need to be addressed.

Romania faces challenges in ensuring that the public administration is sufficiently skilled. The civil service is hampered by bureaucratic processes, a low degree of digitalisation, the need to improve skills and attract, develop, and retain qualified people. Civil service and human resource management reforms continue, albeit slowly. The public function strategy for 2022-2027 ([117]) notes the challenges facing the civil service and lays out an action plan to tackle them. In the same strategy, several RRP measures are being implemented, such as (i) putting competency frameworks into action in central government; (ii) a national recruitment competition for the public administration; (iii) developing and extending the civil servants' management platform (known as E-ANFP); and (iv) developing digital and sustainable development skills, leadership and talent management.

Despite ongoing efforts, the management of public investment in Romania remains weak across the entire investment cycle. Public investment planning is carried out by line ministries with limited coordination across sectors. A long-term development strategy ('Romania 2030') was produced in 2018. Although it

([115])MonitorPNRR, Bulletin de sănătate nr. 8/2023. PNRR-ul României a rămas în urmă. Ce se poate întâmpla mai departe?.

([116])European Commission, Standard Eurobarometer 99, spring 2023.

([117])Guvernul României (2022), Strategia în domeniul funcției publice pentru perioada 2022-2027, Agenția Națională a Funcționarilor Publici, București.

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

RO	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	23.6	24.6	75.0
2	E-government benchmark overall score ([3])	n/a	40.1	41.8	45.8	47.7	75.8
3	Open data and portal maturity index	0.6	0.7	0.8	0.7	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, %)	56.7	54.9	53.6 (b)	54.2	54.7	52.9
5	Participation rate of public administration employees in adult learning (%)	: (u)	: (u)	6.9 (b)	8.1	11.2	17.9
6	Gender parity in senior civil service positions ([4])	7.0	8.6	7.8	0.0	2.0	9.2
7	Ratio of 25-49 to 50-64 year olds in NACE sector O	3.2	2.9	2.6 (b)	2.4	2.2	1.5
Public financial management							
8	Medium-term budgetary framework index	0.7	0.8	0.8	0.8	n/a	0.7
9	Strength of fiscal rules index	2.2	2.2	2.2	2.2	n/a	1.4
Evidence-based policy making							
10	Regulatory governance	n/a	n/a	1.47	n/a	n/a	1.7

High values denote 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; (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).

identifies key objectives at national level, it is insufficiently aligned with sectoral strategies and EU-financed priorities. Mechanisms to support capital availability beyond the annual budget year, such as a mechanism for appropriations beyond the budget year and accompanying restrictions in fund-use for other purposes, are missing. Ex-post reviews on the effectiveness and efficiency of investment projects are not systematically required ([118]).

The justice system performs efficiently overall, but this slightly decreased in 2022 compared to 2021. The disposition time in administrative cases fell significantly from 2020 to 2021, particularly at first instance, and increased slightly in 2022 (from 690 days in 2020 to 293 days in 2021 and 321 days in 2022). The quality of the justice system is good overall despite persistent challenges related to staff shortages on which some progress has nevertheless been made. Continuous efforts have been made to improve digitalisation within the justice system. However, there are still challenges related to procedural rules enabling digital technologies in courts, the use of digital technologies in the prosecution service, access to electronic files of ongoing cases, and digital solutions to conduct and follow criminal case proceedings. Whilst progress has been made to safeguard the independence of the judiciary with the adoption of the Justice Laws in 2022, some concerns remain on certain aspects ([119]).

To help address fiscal challenges, the independent fiscal institution (IFI) could be strengthened. At the Romanian IFI's secretariat, less than half of all available positions are filled. Access to information could be further improved.

([118])Belu Manescu, C. (2022), 'New evidence on the quality of public investment Management in the EU', European Economy Discussion Paper No 177, European Commission.

([119])For more details, see the 2024 EU Justice Scoreboard and the Commission's 2024 Rule of Law Report (forthcoming).

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 Romania'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 Romania**

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)	19,1
	Early leavers from education and training (% of the population aged 18-24, 2023)	16,6
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2023)	27,7
	Young people not in employment, education or training (% of the population aged 15-29, 2023)	19,3
	Gender employment gap (percentage points, population aged 20-64, 2023)	19,1
	Income quintile ratio (S80/S20, 2022)	6
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2023)	68,7
	Unemployment rate (% of the active population aged 15-74, 2023)	5,6
	Long term unemployment (% of the active population aged 15-74, 2023)	2,2
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, 2022)	
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2022)	34,4
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2022)	41,5
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2022)	16,54
	Disability employment gap (percentage points, population aged 20-64, 2022)	32
	Housing cost overburden (% of the total population, 2022)	8,5
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2022)	12,3
	Self-reported unmet need for medical care (% of the population aged 16+, 2022)	4,9

Critical situation | To watch | Weak but improving | Good but to monitor | On average | Better than average | Best performers

(1) 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.

Although the labour market situation has been improving, significant challenges remain. In 2023, the unemployment rate (5.6% vs 6.1% in the EU) and long-term unemployment rate (2.2% vs 2.1% in the EU) were close to the EU averages. While the employment rate has been going up over the last decade to reach 68.7% in 2023, it still lags behind the EU average (75.3%). The introduction of work cards for domestic workers, supported by the recovery and resilience plan (RRP), is nonetheless expected to have a positive impact on formal employment in this sector. The Romanian labour market is characterised by a low participation of young people, women, persons with disabilities, low-skilled people and Roma. Youth unemployment (21.8% in 2023) has decreased although it remains significantly above EU average (14.5%), and the rate of young people not in employment, education or training (NEETs) remains among the highest in the EU (19.3% vs 11.2% in 2023), despite improvements. The gender and disability employment gaps are very wide, well above the respective EU averages. Challenges persist also for the low-skilled, whose employment rate, at 45.3% in 2023, was far below the EU average (58.3%) and significantly lower than that for people with tertiary education (89.8%). Only 41% of Roma were engaged in paid work in 2021, and 59% of Roma young people were not in employment, education or training ([120]). The gender employment gap among Roma is very wide, with only 23% of women in paid work. Considerable efforts will be needed to get more people, including underrepresented groups, into work to reach the national employment rate target of 74.7% by 2030.

The effectiveness of active labour market policies remains a concern in the face of demographic change and labour and skills shortages. The working-age population (15-64 years) is projected to fall by 23.7% by 2050. Activity rates are low, and employers are reporting difficulties in filling positions. Spending on labour market policy interventions is among the lowest in the EU (0.1% of GDP in 2020). Women, NEETs, Roma and persons with disabilities are less likely than other jobseekers to find work after participating in active labour market policy measures. Finding work or training for persons displaced from Ukraine is also a concern. This highlights the need to increase the effectiveness of active labour market policies and public employment services, notably through better outreach and an overhaul of internal processes in the services. Under its national RRP, Romania has put forward a new law on social dialogue that aims to address deficiencies in the social dialogue process, and to promote the stronger involvement of social partners in the design and implementation of active labour market policy.

([120]) European Union Agency for Fundamental Rights (2022), Roma Survey 2021.

Greater efforts on skills development are essential to improve education and labour market outcomes. Only 27.7% of people aged 16-74 had at least basic digital skills in 2023 (vs 55.6% in the EU) and less than 1 in 5 people aged 25-64 held a tertiary education qualification in 2023, which impacts their employability. Adult participation in learning over the past 12 months stood at 19.1% in 2022, 13.3 percentage points higher than in 2016, but still far below the EU average of 39.5%. The combination of demographic challenges, skills and labour shortages, and the low levels of participation of various groups in the labour market also undermines Romania's potential to increase its economic competitiveness. The ESF+ is supporting upskilling and reskilling measures such as the 'Keep Up' programme, which will upgrade the skills of over 27 000 employees to keep pace with rapid technological developments. Also, ESF+ will support the implementation of the 2024-2027 Adult National Training Strategy (adopted in December 2023) with its general objective to increase the adult participation rate in lifelong learning to 12% by 2027. Further efforts and a strategic vision are needed to enhance the skills of the population, namely through the acquisition of tertiary qualifications and digital skills, and with a focus on older people and people with a lower level of education.

The education and training system faces persistent challenges in relation to quality and inclusiveness. Few children under the age of three receive formal childcare (12.3% vs 35.7% in the EU in 2022). The early school leaving rate is among the highest in the EU (16.6% vs 9.5% in the EU in 2023), and disproportionally affects young people in rural areas, Roma and persons with disabilities. In particular, 74% of young Roma (aged 18-24) had not completed upper secondary education and training in 2021. The low rate of employment of recent VET graduates (61.2% vs. 78.9% in the EU in 2023) and the low levels of basic skills as measured by the 2022 PISA test (see Annex 15) point to challenges in the quality and equity of education and in responding to labour market needs. The new laws on education (which entered into force in September 2023) are a major step forward (see also Annex 15). Concrete improvements in the quality and inclusiveness of the education and training system are dependent on the timely implementation of the wider sectoral reform. This reform is supported extensively by the Recovery and Resilience Facility (RRF), the ERDF and the ESF+. Inadequate access and the lack of affordable social services, long-term care and health services pose challenges for disadvantaged groups. Unmet needs for medical care are reported by 4.9% of the population, which is more than double the EU average (2.2%), with significant differences between income groups, urban and rural areas, and regions. As many as 9.1% of Romanians in the lowest income quintile reported unmet medical needs compared to 1.8% in the highest quintile, while 58% of Roma do not have medical insurance. The coverage of quality and affordable care services, notably for persons with disabilities and older people, is inadequate and uneven, due to insufficient funding and fragmentation in delivery. Only 4.7% of people aged over 65 and in need of long-term care used home care services, compared to an EU average of 28.6%. (This is against the background of Romania having one of the highest shares of persons with long-term care needs in the EU, at 56% vs the EU average of 26.6%). 16.4% of persons with disabilities (vs 4.1% in the EU) report unmet needs for medical care, while a lack of community-based social services hinders the deinstitutionalisation process. The ESF+ supports the scaling up of the delivery of services at national level in 2 000 disadvantaged rural communities. It also supports strategic reforms, including the deinstitutionalisation process, in complementarity with the RRP, as well as social innovation measures to improve access to services for persons with disabilities.

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

Indicators	Latest data	Trend (2016-2023)	2030 target	EU target
Employment (%)	68,7 (2023)		74,7	78
Adult learning[1] (%)	19,1 (2022)		17,4	60
Poverty reduction[2] (thousands)	-3086 (2023)		-2.532	-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.

Romania is experiencing some of the highest poverty risks and levels of inequality in the EU. Despite some improvement, in 2022 the income of the richest 20% of the population was more than six times greater than that of the bottom 20% (vs 4.7 times in the EU). The rate of people at risk of poverty or social exclusion (AROPE) is one of the highest in the EU (34.4% vs 21.6% in the EU in 2022). People living in rural areas, older people and vulnerable groups, including persons with disabilities and Roma, are particularly affected. Almost 8 in 10 Roma people are at risk of poverty or social exclusion. The AROPE rate among children is high and increased between 2021 and 2022 (41.5% vs 24.7% in the EU in 2022). Further efforts are needed to reduce child poverty and improve equality of opportunities, including by implementing the European Child Guarantee. The rate of severe material and social deprivation is also among the highest in the EU (24.3% vs 6.7% in 2022), with a significant urban-rural divide. The adequacy and coverage of pensions and the minimum income are low and the impact of social transfers (excluding pensions) on poverty reduction is half of the EU average. Key challenges remain in ensuring that social protection benefits are accessible and adequate, in particular for workers in non-standard forms of work, the self-employed and unemployed people. Only 7.8% of people who had been unemployed for less than 12 months were receiving benefits in 2023. The implementation of measures envisaged under the RRP and the ESF+ will need to be accelerated to improve the situation and help meet the 2030 target of reducing the number of people at risk of poverty or social exclusion by 2.5 million. As part of the RRP, Romania is reforming the minimum inclusion income (VMI) to improve social assistance and reduce poverty, while reducing the administrative burden. Likewise, the public pension system is being reformed, aiming, among other things, to increase the minimum and lower pensions, in particular for people living below the poverty threshold. The available quantitative and qualitative evidence and the policy response undertaken and planned analysed in the second-stage analysis of the Social Convergence Framework of May 2024 (SWD(2024)132) point to challenges for Romania that may affect social convergence in relation to its social situation, education and skills as well as the labour market.

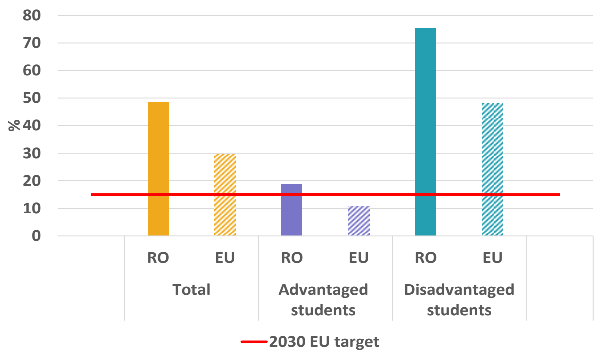
This Annex outlines the main challenges of Romania's education and training system based on the 2023 Education and Training Monitor and the 2022 OECD Programme for International Student Assessment (PISA) results.

Romania's poor PISA scores reflect structural challenges for education and training, linked to quality and equity. The OECD's 2022 PISA ([121]) showed that 48.6% of Romanian 15-year-olds had difficulties in interpreting and recognising how a simple situation can be represented mathematically. 41.7% could not identify the main idea in a text of moderate length and reflect on its purpose. 44% could not recognise the correct explanation for familiar scientific phenomena and draw evidence-based conclusions. Compared with 2012, these shares increased by 7.7 pps in mathematics (EU 7.3 pps), 4.5 pps in reading (EU 8.2 pps) and 6.7 pps in science (EU 7.4 pps). These results may reflect challenges linked to the teaching profession (e.g. weaknesses of initial teacher education and continuous professional development, challenges in rural areas), the curricula, the underfunding of the sector, and the strong impact of socio-economic factors on performance. They could also reflect challenges due to the fragmentation of the school network in rural areas and segregation in education. Results may also reflect challenges linked to school climate and discipline and the impact of the pandemic.

Lack of basic skills among young Romanians will have an impact on their future employability, skills acquisition and productivity. Romania's rates of low achievement in basic skills are among the highest in the EU and significantly above the EU averages, which also worsened in 2022 (29.5% in mathematics, 26.2% in reading, 24.2% in science). Insufficient labour market relevance of vocational education and training and higher education, and low adult learning participation, add to the challenge (see Annex 14). Few Romanian 15-year-olds were top performers in the 2022 PISA test. Only 4% of youngsters demonstrated advanced skills in mathematics (EU 7.9%), 2% in reading (EU 6.5%) and 1.4% in sciences (EU 6.9%). The low shares of top-performing students represent an additional obstacle for increasing productivity and future innovation capacity.

High inequalities in education persist. 75.4% of students from disadvantaged background were low achievers in mathematics (EU 48%), compared with 18.7% of advantaged students (EU 10.9%). The gap in performance (see Graph A15.1) has increased compared with 2012 and is the highest in the EU, pointing to the strong impact of socio-economic factors on student outcomes ([122]).

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



Source: OECD (2023).

There are challenges linked to school climate and discipline affecting performance. Only 50% of 15-year-olds feel that they belong in school, the lowest rate in the EU. 57% reported that their mathematics teachers show an interest in every student's learning (69% in 2012). 25% reported frequent bullying, while 35% get distracted using digital devices.

Inequalities in education start early and particularly affect rural areas and the Roma. In 2021, only 75.6% of children between age 3 and compulsory primary education were enrolled in early childhood education (EU 92.5%). Participation rates are significantly lower in rural areas ([123]) and for the Roma ([124]). The shortage of staff with proper qualifications especially affects schools in rural areas, which provide education for more than 40% of pupils in primary and lower

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

([122])PISA 2022 Results: Factsheets, Romania.

([123])Ministry of Education 2022, Starea invatamantului pre-universitar din România.

([124])Fundamental Rights Agency (FRA), 2022, Headline indicators for the EU Roma strategic framework for equality, inclusion and participation for 2020–2030.

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

				2012		2018		2023	
Indicator			Target	Romania	EU-27	Romania	EU-27	Romania	EU-27
[1]Participation in early childhood education (age 3+)			96%	84.1% [2013]	91.8% [2013]	81.9%	92.2%	75.6% [2021]	92.5% [2021,d]
[2]Low-achieving 15-year-olds in:		Reading	< 15%	37.3%	18.0%	40.8%	22.5%	41.7% [2022]	26.2% [2022]
		Mathematics	< 15%	40.8%	22.1%	46.6%	22.9%	48.6% [2022]	29.5% [2022]
		Science	< 15%	37.3%	16.8%	43.9%	22.3%	44.0% [2022]	24.2% [2022]
Early leavers from education and training (age 18-24)	[3]Total		< 9 %	17.8%	12.6%	16.4%	10.5%	16.6%	9.5%
	[3] *By gender*	*Men*		18.5%	14.5%	16.7%	12.1%	16.5%	11.3%
		Women		16.9%	10.6%	16.1%	8.7%	16.7%	7.7%
	[4] *By degree of urbanisation*	*Cities*		5.0% [b]	11.2%	4.2%	9.4%	3.3%	8.6%
		Rural areas		31.0% [b]	14.0%	25.4%	11.0%	27.5%	9.9%
	[5] *By country of birth*	*Native*		17.8%	11.3%	16.4%	9.2%	16.6%	8.2%
		EU-born		: [u]	26.2%	: [u]	22.4%	: [u]	21.0%
		Non EU-born		: [u]	30.1%	: [u]	23.0%	: [u]	21.6%
[6]Socio-economic gap (percentage points)				43.9	:	46.0	29.5	56.7 [2022]	37.2 [2022]
[7]Exposure of VET graduates to work-based learning			≥ 60% (2025)	:	:	:	:	8.1%	64.5%
Tertiary educational attainment (age 25-34)	[8]Total		45%	23.6%	34.1%	24.9%	38.7%	22.5%	43.1%
	[8] *By gender*	*Men*		21.6%	29.1%	21.8%	33.3%	19.4%	37.6%
		Women		25.6%	39.2%	28.2%	44.2%	25.7%	48.8%
	[9] *By degree of urbanisation*	*Cities*		41.0% [b]	43.5%	45.4%	49.0%	44.4%	53.3%
		Rural areas		6.9% [b]	24.8%	8.2%	27.7%	8.8%	31.7%
	[10] *By country of birth*	*Native*		23.5%	35.4%	24.8%	39.7%	22.4%	44.2%
		EU-born		: [u]	29.3%	:	36.7%	: [u]	40.2%
		Non EU-born		: [u]	24.2%	: [u]	31.0%	: [u]	37.1%
[11]Participation in adult learning (age 25-64)			≥ 47% (2025)	:	:	5.8% [2016]	37.4% [2016]	19.1% [2022]	39.5% [2022]
[12]Share of school teachers (ISCED 1-3) who are 55 years or over				19.5% [2013]	22.7% [2013]	18.4%	23.8%	16.9% [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.

secondary education. This challenge is worsened by the fragmentation of the school network, predominantly in rural areas. Early school leaving is among the highest in the EU (16.6%, compared with the EU average of 9.5% in 2023), and is especially worrying in rural areas (27.5%) and for the Roma ([125]). Romania is implementing ambitious investments and reforms, financed by the Recovery and Resilience Facility, the European Social Fund Plus and the European Regional Development Fund, at all levels of education.

The new education laws aim to address some of the challenges for the teaching profession. To overcome weak initial teacher education, a master's programme in teaching, combined with traineeships and mentoring, became compulsory for future teachers. A newly developed teacher competence framework will guide teacher education, career development and certification. Continuous teacher education was also revised. Implementation details remain to be worked out and will determine the success of the reform.

Tertiary educational attainment remains low. The percentage of university graduates aged 25-34 was 22.5% in 2023 and is one of the lowest in the EU (EU 43.1%). It remains constrained due to high early school leaving, socio-economic factors, low passing-rates of the baccalaureate exam and high dropout rates from tertiary education. The new higher education law lays down measures to improve retention, equity, quality and labour market relevance ([126]).

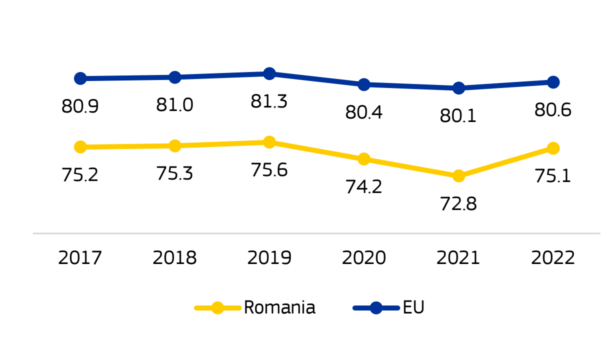
([125])75% of Roma aged 18-24 did not complete upper secondary education (FRA, 2022).

([126])For more information see [Education and Training Monitor 2023.]

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 Romania.

Life expectancy at birth in Romania was among the lowest in the EU in 2022, with a wider gender gap than the EU average. There was a significant drop in life expectancy in 2020 and 2021 due to the COVID-19 pandemic. Although life expectancy rebounded in 2022, partially explained by a significant decrease in COVID-19 mortality ([127]), it remained below the pre-pandemic level. In 2021, the leading causes of death were diseases of the circulatory system ('cardiovascular diseases') and cancer, followed by COVID-19. Treatable mortality is the highest in EU, suggesting that the effectiveness of public healthcare interventions is limited. At the same time, mortality in economically active age groups, as a proportion of total mortality and relative to the workforce size, is among the highest in the EU. The cancer mortality rate is slowly falling but remains above the EU average; cancer screening rates are below EU averages. Behavioural and environmental risk factors account for more than half of all deaths.

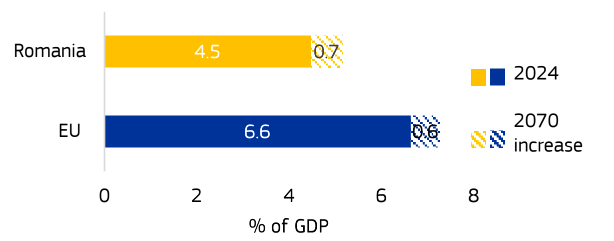
Graph A16.1: **Life expectancy at birth, years**



Source: Eurostat

In 2021, total health spending was one of the lowest in the EU, both in per capita terms and as a percentage of GDP. Health expenditure is currently financed through the compulsory social health insurance payroll system. However, only around 36% of those covered pay contributions and around 12% of the population is uninsured (but entitled to a minimum 'basket' of health services funded from the state budget). By far the largest share of health spending in Romania goes on inpatient care (around 44% of total health expenditure in 2021). This, and the high number of hospital beds (721 per 100 000 population in 2021, much higher than the EU average), illustrate Romania's strongly hospital-centred care model. The share of health spending for outpatient care is well below the EU average. This would suggest that primary-level care services play a limited role in disease prevention, early diagnosis and treatment – making it harder to reduce avoidable mortality rates and provide quality care for people with chronic conditions. Out-of-pocket payments account for a greater proportion of spending on health in Romania than in the EU overall. Nearly two thirds of all out-of-pocket payments are for outpatient pharmaceuticals. Based on population and demographic projections, public spending on health is projected to increase by 0.7 percentage points (pps) of GDP by 2070, compared to 0.6 pps for the EU overall, raising medium-term fiscal sustainability concerns (see Graph 16.2 and Annex 21).

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



Baseline scenario
Source: European Commission / EPC (2024)

In 2021, spending on prevention in Romania amounted to 3.7% of total spending on healthcare, much lower than 6.0% for the EU overall. Between 2019 and 2021, spending on prevention in Romania increased by around 145%, compared to a 106% increase for the EU overall. Spending on immunisation programmes (vaccination) was the main factor for this increase. The consumption of antibiotics is increasing; in 2022 it was well above the EU average. This is despite the recommended national target (set by the Council Recommendation on stepping up EU

([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)	210.6	208.6	235.1	254.7	NA	93.3 (2021)
Cancer mortality per 100 000 population	273.2	264.2	260.3	243.2	NA	235.4 (2021)
Current expenditure on health, % GDP	5.5	5.7	6.2	6.5	NA	10.9 (2021)
Public share of health expenditure, % of current health expenditure	79.7	80.5	80.3	78.3	NA	81.1 (2021)
Spending on prevention, % of current health expenditure	1.4	1.5	2.0	3.7	NA	6.0 (2021)
Available hospital beds per 100 000 population	697	706	712	721	NA	525 (2021)
Doctors per 1 000 population	3.0	3.2	3.3	3.5	NA	4.1 (2021)*
Nurses per 1 000 population	0.7	0.8	0.8	0.9	NA	7.9 (2021)
Total consumption of antibacterials for systemic use, daily defined dose per 1 000 inhabitants per day ***	25.1	25.8	25.2	25.7	27.6	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.

actions to combat antimicrobial resistance in a One Health approach) of reducing total consumption of antibiotics by 27% by 2030 compared to the 2019 level. A strategy to prevent and limit healthcare-associated infections was recently approved.

Low public funding for outpatient care and uneven distribution of healthcare resources limit access to care. High levels of treatable mortality in Romania may be linked to issues with accessing outpatient care as opposed to shortcomings in the quality of inpatient care. Two such issues are the limited scope of primary care services (dealing mainly with 'non-complicated' cases and providing only inconsistent follow-up of chronic patients) and the limited availability of general practitioners. These result in people making avoidable visits to emergency departments (as the easiest way to access specialist care). The national health strategy for 2023-2030 aims to enhance the role and improve the performance of outpatient care. The level of unmet needs for medical care in 2022 was among the highest in Europe (see Annex 14; 4.9% in Romania compared to an EU average of 2.2%). Such unmet needs are mainly cost-driven, and there are wide income-related and rural-urban disparities. This may be linked to the average travelling distance to healthcare facilities in some areas, exceeding the average distance reported for the EU.

Shortages of healthcare staff limit the availability of care. The density of doctors in Romania (3.5 per 1 000 population in 2021) has been below the EU average for several years, despite a higher density of medical graduates than across the EU. According to the newly adopted Eurostat definition of nurses, following the EU Directive 2005/36/EC on the recognition of professional qualifications, there are only 0.9 nurses per 1 000 population in Romania (one of the lowest rates in the EU) compared to an EU average of 7.9, and the number of nursing graduates per 100 000 population is also among the lowest in EU. Emigration of health workers contributes to the staff shortages. To tackle health workforce issues, a multiannual strategy (2022-2030) and sectoral action plans were approved.

EU funds support substantial investments in healthcare in Romania. Under the Romanian recovery and resilience plan, investments worth around EUR 2.11 billion are planned for health reforms and health infrastructure, digitalisation and human-resources capacity-building. Significant funding for healthcare (EUR 3.8 billion) is also planned under the EU cohesion policy funds in 2021-2027. With this, Romania will invest in health infrastructure, health equipment, digitalisation of healthcare, and measures to improve the accessibility, effectiveness and resilience of health services ([128]). These investments may help Romania overcome the slow uptake of digital health solutions. For example, the number of individuals accessing personal health records online in Romania is below the EU average, indicating that the country is lagging behind in the uptake of e-health and overall health systems digitalisation.

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

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

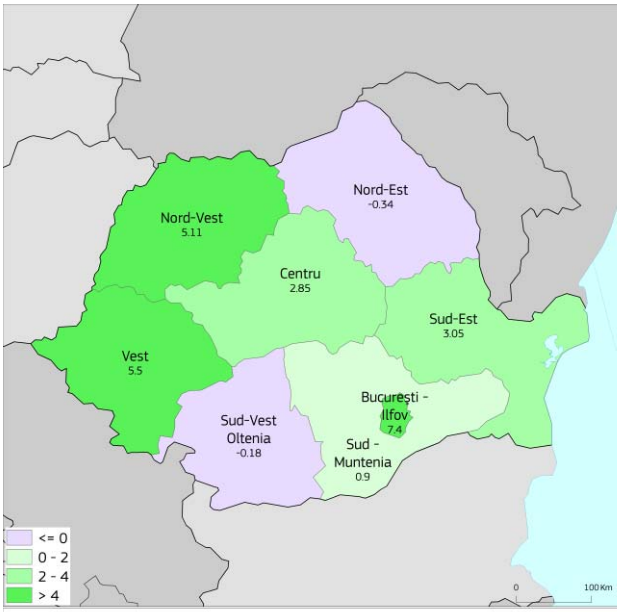
Overview of economic and social performance at regional level

Regional disparities in Romania remain very high, with important gaps in labour productivity, investment and employment between the capital region and the other regions. In 2022, GDP per capita in the capital region of București-Ilfov corresponded to 177% of the EU average. The other regions lag far behind, in Nord-Est GDP per capita was less than half of the EU average.

Disparities in GDP per capita between the capital and the rest of the country reflect disparities in labour productivity leading to polarisation in income and inequality. In 2022, labour productivity in Romania was 80.7% of the EU average. It varied extensively between regions. București-Ilfov had a productivity (GVA (PPS) per worker) of 156.6% of the EU average, compared to 44.9% in Nord-Est. Similarly, the urban-rural income gap remains significant, standing at 4.4 times the EU average in 2022.

Despite overall convergence with the EU average, internal divergence has deepened. Real GDP growth between 2013 and 2022 diverged substantially between the regions. The 5 less developed regions registered lower growth than the national average (4.1%), namely Centru (2.9%), Sud-Est (3.1%), Sud-Muntenia (0.9%), Sud-Vest Oltenia (-0.2%), with Nord-Est even having negative growth (-0.3%). This contrasts with growth of 7.4% in the capital region (Map A17.1).

Map A17.1: **Romania, NUTS2: GDP per capita growth 2013-2022**



Romania: GDP per capita growth 2013-2022 by NUTS 2
Source: ARDECO
GDP per head, average % change on the preceding year
REGIOgis
© EuroGeographics Association for the administrative boundaries

Source: DG REGIO

Although most regions lag behind the rest of the EU in terms of socio-economic development, this was particularly the case for three regions. Nord-Est, Sud-Muntenia and Sud-Vest Oltenia were identified as having been in a development trap for the last 15 years ([129]).

Human capital is considerably limited outside Bucharest, particularly in rural areas. In 2022, in all less developed regions, fewer than 25% of the population had a tertiary degree (ranging from 17% to 23% depending on the region) while in București-Ilfov this share was 54.2%, (above the EU average of 43%). This reflects persistent rural-urban disparities in education. In 2022, people living in cities were significantly more likely to be engaged in adult learning compared to their rural counterparts (36.0% vs 16.0%, respectively). The rate of early leavers from education and training was 24.5% in rural areas, compared with 3.9% in cities.

All less developed regions have experienced demographic decline and depopulation. Between 2012 and 2021, the population in all Romanian regions, including the capital region, shrunk, even if to different degrees. These

([129])Reference to publication on development traps.

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

Region name	GDP per head (PPS)	Productivity (GVA (PPS) per person employed)	Real productivity growth	GDP per head growth	Population growth	At-risk-of-poverty or social exclusion	Early school leavers	R&D expenditure	Employment in high-technology sectors	EU Regional Competitiveness Index 2.0 - 2022 edition
	Index, EU27 = 100 (2022)	Index, EU27 = 100 (2022)	Average % change on the preceding year (2022)	Average % change on the preceding year (2013-2022)	Average annual change per 1000 residents (2013-2021)	% of population (2022)	% of population aged 18-24 (2022)	% of GDP (2021)	% of total employment (2022)	Index, EU27 = 100
European Union (27 MS)	100.0	100.0	0.7	1.4	1.9	21.6	9.6	2.3	4.9	100.0
România	75.0	80.7	3.6	4.1	-5.6	34.4	15.6	0.5	3.4	56.5
Nord-Vest	70.0	74.0	4.6	5.1	-3.1	27.4	15.9	0.2	2.6	56.0
Centru	71.0	85.9	1.4	2.9	-4.1	31.7	23.4	0.4	2.3	52.5
Nord-Est	46.0	44.9	-1.0	-0.3	-1.9	38.2	14.6	0.2	1.5	47.0
Sud-Est	60.0	72.8	2.3	3.1	-7.4	46.9	23.1	0.1	0.8	46.1
Sud-Muntenia	57.0	67.2	1.5	0.9	-9.4	37.1	13.7	0.3	1.5	52.1
Bucureşti-Ilfov	177.0	156.6	6.1	7.4	-0.7	19.2	7.9	1.0	11.3	93.7
Sud-Vest Oltenia	57.0	60.3	0.2	-0.2	-10.2	44.7	16.2	0.1	0.9	50.2
Vest	78.0	88.5	5.3	5.5	-9.9	29.5	11.4	0.7	4.7	57.8

Source: Eurostat, EDGAR database

population reductions in combination with ageing have shrunk the working age population and increased the share of older people, making six (130) out of seven least developed regions fall into a talent development trap (131) (132).

Another obstacle is weak innovation performance, accentuated by regional disparities (133), and low investment in R&D (0.5% of GDP in 2021). This remains far below the EU average of 2.3%. Only the capital region has R&D intensity above the national average (1.1% of GDP), due to higher employment rates in high-technology sectors and knowledge-intensive services as well as public research base concentration. In 2022, 11.3% of employment in the capital region was in high-technology sectors and 46.9% of employment was in knowledge-intensive services. Both these figures are above the EU average, and far above the rest of the country.

The lack of key infrastructures in transport, waste, water and sanitation has been identified as an obstacle to socio-economic development and quality of life. In 2021, in the capital region, 74.9% of the population living in a radius of 120 km can be reached in less than 90 minutes, but this ratio drops to less than 50% in most of the less developed regions, bottoming out at 26.1% in Centru. These differences reflect huge disparities in access to key public and private services, highly concentrated in the main cities. In addition, only 84% of the country's population has access to water supply and only 73% to sanitation services.

Investment and subnational reform needs ahead

Weak administrative capacity, complex governance structures and gold plating lead to insufficient coordination between national, regional and local levels and hinder investment and the efficient implementation of cohesion policy. Simplification measures, both at legislative and administrative level, would be key for better absorption capacity at all levels. National and regional authorities should ensure that the implementation of all mid-term and long-term strategies are systematically monitored, particularly in the R&I, energy, health, education and social inclusion sectors.

Increasing the capacity for businesses to innovate in lesser developed regions remains a high priority. This includes further strengthening the uptake of advanced technologies, increasing public-private collaboration and the number of innovative SMEs, as well as supporting innovation enablers and the

(130) The West region is already part of the 10 pilot regions which will receive expert support in 2024 under Pillar 1 of the Talent Booster Mechanism to develop strategic thinking and actionable frameworks to address the challenges they face when it comes to attracting, developing and retaining talent.

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

(132) The West region is already part of the 10 pilot regions which will receive expert support in 2024 under Pillar 1 of the Talent Booster Mechanism to develop strategic thinking and actionable frameworks to address the challenges they face when it comes to attracting, developing and retaining talent.

(133) 2023 Regional Innovation Scoreboard: https://ec.europa.eu/assets/rtd/ris/2023/ec_rtd_ris-regional-profiles-romania.pdf.

participation in European research and innovation networks, platforms and programmes. Improving the quality of governance of regional innovation eco-systems would ensure a full uptake of the additional investments.

Romania could also benefit from the investment opportunities of the STEP initiative, notably to boost investments in the development of critical technologies to support the industry transformation, namely for resource-efficient manufacturing and development of critical raw materials.

The implementation of measures to address poverty and social exclusion is urgent. Romania has one of the highest rates of housing deprivation in the EU. The housing overcrowding rate in Romania is among the highest in the EU (40.5% in 2022 vs 16.8% EU average). Additional investments in social housing integrated in the community is paramount, particularly in marginalised urban areas. Coupling these infrastructure investments with social services for vulnerable groups, including Roma, people with disabilities and older people is crucial. In addition, the development of pre-hospital medical infrastructure is important as well as investments in educational establishments with a high risk of drop-out.

Stepping up investments in the country's railway network and sustainable urban transport is essential, especially in the electrification and renewal of railway lines, and electric vehicle charging stations.

More broadly, Romanian regions need support to achieve their green transition. It is key to focus on biodiversity protection, the uptake of renewables in energy communities, as well as improving the water and sanitation infrastructure and developing separate collection for waste and recycling facilities.

Investment bottlenecks at the subnational level should be addressed in order to facilitate regional investment, including the substantial investments planned under cohesion policy programmes and the NRRP. Effective implementation would require the continued reform of the governance of the water sector**,** which has started with the support of EBRD and OECD. The reform would address the high fragmentation of the sector, with decoupled and detached responsibilities across a number of institutions at national and local level. The reform would have a national aspect aiming at long-term sustainability of infrastructure investments and consolidating the role of the national regulator for public utility services. It would also have a strong regional dimension because it would reduce the number of water providers, improving efficiency and governance, and introduce a more efficient use of revenues to invest in compliance, performance-based management and better quality of service.

Urban policy would benefit from institutional reform to strengthen complementarity between local, regional, national, and EU funding by introducing a single platform for all stakeholders and institutions to coordinate responsibilities. Administrative capacity deficits at the local level, coupled with the lack of a unitary and complete land registration system, hinders the cohesion policy priorities of sustainable and inclusive urban development, especially in small or shrinking cities, where local authorities often lack the experience or financial stability to implement participatory and integrated territorial projects. Furthermore, the legal basis for metropolitan associations and functional urban area partnerships is weak, disincentivising cooperation between municipalities. Such entities would benefit from stronger legal provisions to design and deliver projects that encompass a city and its surrounding area, and to consolidate urban-rural linkages, though improved and efficient use of integrated territorial instruments.

The continuation of administrative capacity building at regional and local levels remains a key challenge. Lack of resources and lack of coordination at the national level lowers the regions ability to identify and address structural bottlenecks. To address this, Romanian regional authorities are committed to drawing up eight regional administrative capacity-building roadmaps based on OECD methodology ([134]). Their implementation is expected to put in place an effective human resources management in the public sector at regional and local level, streamline

([134])OECD (2020), Strengthening Governance of EU Funds under Cohesion Policy: Administrative Capacity Building Roadmaps, OECD Multi-level Governance Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9b71c8d8-en.

administrative procedures, increase transparency, and improve policy and decision-making processes through improved stakeholder consultations. Additional support and technical assistance will be key in sustaining the reforms introduced through the roadmaps and to monitor their implementation.

The financial sector in Romania is dominated by a relatively small banking sector, and capital markets are still developing. Financial intermediation remains low. In Q3-2023, the total assets of the banking sector were equivalent to 52.9% of GDP, considerably below the peer economies in the region and the lowest ratio in the EU, where the average is 257%. A vulnerability behind this figure is the large share of non-financial corporations that continue to have significant capitalisation weaknesses, and therefore have less access to finance. Payment discipline in the economy remains weak. Romanian firms rely mainly on loans from suppliers and shareholders, rather than loans from financial institutions. In addition, borrowers show a modest degree of financial literacy, and the country is lagging in digital skills compared to the EU average ([135]), which further impedes the development of financial intermediation.

The banking sector in Romania has maintained its soundness despite the challenges posed by the pandemic crisis, Russia's war of aggression in Ukraine, and last year's global turbulence induced by developments in the US and Swiss banking sectors. Banking sector capitalisation has been relatively stable for several years, giving banks good capacity to deal with possible adverse conditions. The capital adequacy ratio stood at 21.6% in Q3-2023, above the EU average of 19.6% and above pre-pandemic levels. As part of a set of new fiscal measures, the Romanian authorities have adopted an additional tax on banks' turnover. The measure is of a permanent nature and applicable to all banks, irrespective of their financial results, and this may over time affect both the capital levels and competitiveness of Romanian banks. Bank liquidity ratios also stand at high levels. Excess liquidity could also be highlighting a lack of opportunities for banks to make loans or investments. Despite the uncertain economic environment, the non-performing-loans ratio has continued its downward trend, reaching 2.7% in Q3-2023, although this level is still higher than the EU average, and the trend might reverse if macroeconomic conditions deteriorate.

([135])Digital Economy and Society Index, 2022.

The close link between banks and Romania's sovereign remains a matter of concern. The large share of government debt in total banking assets (23% in September 2023) generates both concentration and interest-rate risks. The sovereign-bank nexus is even higher (30% of total assets ([136])) if indirect exposures, i.e. the outstanding amount of State guarantees for loans, are taken into consideration. In the past 2 years, there have been a number of challenges including: economic uncertainty, the challenging geopolitical context, monetary policy tightening and a lax fiscal policy. Taken together, these factors have led to a rise in yields on Romanian government securities, with an impact on the market value of securities, which could be intensified if fiscal deficits persist.

Profitability in the banking sector has remained robust, as banks have benefited from high interest rates on the back of rapidly tightening monetary policy ([137]). Return on equity has reached its highest levels in 7 years (18.2% in Q3 2023), almost double the EU average (9.9%). Net interest income has been the largest source of profitability. High interest rates have generated growing revenues due to a large share of variable-rate loans in the portfolios of banks. By contrast, on the funding-cost side, deposits from the population and non-financial corporations have remained stable and their remuneration has not increased noticeably. Operational expenditure has continued to grow due to wage increases associated with the inflationary environment and investments in digitalisation, although this growth in expenditure has been partly compensated for by a continued reduction in the number of bank branches. Operational efficiency, determined by the cost-to-income ratio, has improved, hitting its lowest level since 2017 (45.4% in Q3-2023).

After very buoyant lending activity in 2022, bank lending to the private sector has lost some momentum. Loans to non-financial corporations and households continued to rise in 2023, albeit at a markedly slower pace than the

([136])National Bank of Romania, Financial Stability Report, December 2023.

([137])Since October 2021, the National Bank of Romania has raised the key monetary-policy rate several times until reaching 7% in January 2023, from its initial 1.25%.

Table A18.1:**Financial Soundness Indicators**

	2017	2018	2019	2020	2021	2022	2023	EU	Median
Total assets of the banking sector (% of GDP)	53.0	50.6	49.8	56.5	58.0	53.9	52.9	257.0	184.6
Share (total assets) of the five largest banks (%)	59.5	61.6	62.6	62.4	62.5	61.1	-	-	69.6
Share (total assets) of domestic credit institutions (%)[1]	22.7	25.1	26.4	29.4	31.8	31.9	33.2	-	62.9
NFC credit growth (year-on-year % change)	5.1	9.3	6.0	6.7	20.0	19.1	12.8	-	2.4
HH credit growth (year-on-year % change)	8.5	10.9	7.0	4.7	9.7	6.0	3.9	-	1.4
Financial soundness indicators:[1]									
- non-performing loans (% of total loans)	6.6	5.0	4.3	3.9	3.4	2.8	2.7	1.8	1.8
- capital adequacy ratio (%)	19.4	19.7	21.0	23.5	22.2	22.4	21.6	19.6	20.1
- return on equity (%)[2]	11.7	13.6	12.3	9.0	13.1	15.7	18.2	9.9	13.2
Cost-to-income ratio (%)[1]	54.9	53.5	53.4	51.4	51.1	48.6	45.4	52.8	44.9
Loan-to-deposit ratio (%)[1]	69.2	71.7	72.0	67.6	68.6	71.0	69.2	93.3	80.2
Central bank liquidity as % of liabilities	-	0.0	0.0	0.1	1.2	0.0	0.0	-	0.7
Private sector debt (% of GDP)	51.3	47.1	46.5	48.0	47.8	43.3	-	133.0	118.4
Long-term interest rate spread versus Bund (basis points)	364.1	429.0	479.2	440.4	399.9	633.9	427.8	107.7	104.2
Market funding ratio (%)	29.7	27.5	27.2	27.8	25.5	23.6	-	50.8	39.8
Green bonds outstanding to all bonds (%)[3]	-	-	-	-	-	-	-	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 is annualized.
(3) Data available for EA countries only, EU average refers to EA area.
Source: ECB, Eurostat.

year before. A slowdown in the growth rate of foreign-currency corporate lending has been observed, given the decrease in the interest-rate differential between loans denominated in lei and in euro. This differential has fallen from a peak of 6.9 percentage points in October 2022 to 2.2 percentage points in September 2023. Consequently, foreign-currency lending continued to grow, but at a lower rate than a year earlier. Despite the sustained increases in interest rates on new lending to households, demand for mortgage and consumer credit in Q3-2023 increased compared to the previous quarter ([138]). At the same time, credit standards have eased for mortgages and have remained relatively unchanged for consumer loans.

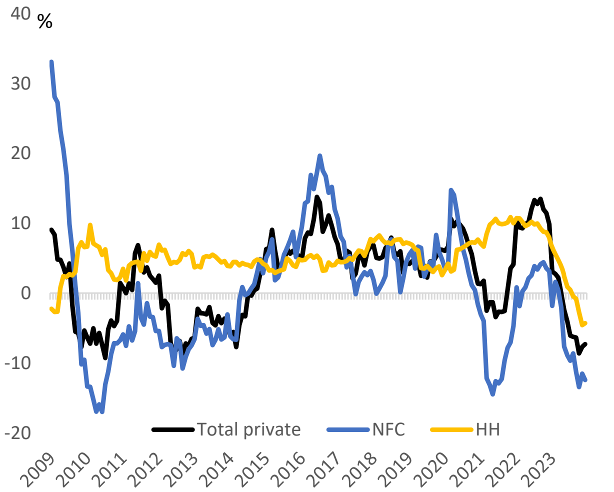
In capital markets, the private pension market has continued to grow strongly, and return on assets has rebounded. Non-banking financial-sector assets were equivalent to 12.23% of GDP in Q2-2023, predominantly held by private pension funds. The total asset value of the mandatory private pension funds (so-called Pillar II) reached RON 121.6 billion (about EUR 24.32 billion) in November 2023, up by 27% compared to November 2022, while the voluntary scheme (Pillar III) is less developed and reached RON 4.5 billion (less than EUR 1 billion) in assets in November 2023. The development of Pillar II pension funds is largely affected by government decisions, so the recent regulation increasing mandatory contributions from 3.75% to 4.75% of salary from January 2024 will benefit the sector. However, the exemption from the mandatory private pension scheme of construction, agriculture, food industry and IT&C workers is holding back the sector's development. The investment policy within private pension-fund portfolios, which is limited by legislation, continues to be focused on the local financial market: 93% of investments are in Romanian assets, most of which are denominated in lei. A large part of the Romanian investments are government bonds and shares listed on the Bucharest Stock Exchange (BVB). In terms of profitability, while the steep increase in inflation and interest rates in 2022 weighed on pension funds' return on assets, in 2023 all pension funds in Romania recorded higher annualised rates of return, thus broadly converging back to the levels recorded in 2021.

The Romanian insurance sector is relatively small and is characterised by a high degree of concentration. The sector ranks last in the EU in terms of assets as a percentage of GDP (1% compared to 25.2% on average in the EU in Q3-2023). The Romanian insurance market is also characterised by a high degree of concentration, both in terms of the types of insurance offered and in terms of the significant market shares held by a relatively small number of insurance companies. The sector is dominated by the compulsory motor third-party liability insurance segment. Around 83% of total gross written premiums in 2022 were recorded in the non-life

([138])National Bank of Romania lending survey for non-financial corporations and households, Q3-2023.

insurance sector (of which 55% was car insurance). In Q3-2023, eligible funds were sufficient to cover solvency capital requirements (SCR) (174.4%), but the level was well below the EU average (262.3%). Following the failure of the main car-insurance company in 2021 ([139]) and the withdrawal of the operating authorisation of another relevant market player at the beginning of 2023 ([140]), the insurance sector in Romania has been recently challenged by: (i) increases in the value of claims due to inflation; (ii) limits on the motor third-party premiums enforced in 2023; and (iii) the latest increases in contributions to the National Insurance Guarantee Fund (FGA).

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



Source: ECB.

([139])City Insurance

([140])Following several control actions, the Romanian supervisor (ASF) concluded that Euroins Romania failed to meet the required eligible funds to cover the SCR and the minimum capital requirement. ASF decided to withdraw its operating authorisation, and to open the bankruptcy proceedings.

This annex provides an indicator-based overview of Romania's tax system. It includes information on the tax structure (the types of tax that Romania 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.

Romania's tax revenues across all major revenue sources are relatively low in relation to its GDP. Table A19.1 shows that Romania's tax revenues as a percentage of GDP were below the EU aggregate in 2022. This holds for all major tax revenue sources. However, there are differences across tax types: while consumption taxes revenues were close to the EU aggregate, revenues from labour taxes were significantly below the EU aggregate. In addition, revenues from property taxes (and more specifically from recurrent property taxes, which are among the taxes least detrimental to growth), were comparatively low (as a percentage of GDP and of total taxation) (see Graph A19.1). However, the performance of the tax system should also be viewed within the context of the high fiscal and current account deficit. This suggests that there may be scope to make greater use of underused tax types, such as recurrent property taxes, and capital and labour taxes.

Environmental tax revenues mainly derive from energy and transport taxes – 91.8% of environmental tax revenues came from energy taxation in 2022. As revenue from pollution and resources taxes is very low, there could be potential to strengthen the application of the 'polluter pays' principle. Romania is one of the less advanced Member States in the implementation of such taxes. With the second lowest recycling rate in EU (12%) and high landfilling levels, Romania does not apply a well-designed landfill tax or an adequate collection system for bio-waste. 'Pay-as-you-throw' schemes to increase rates of reuse and recycling are to be further developed.

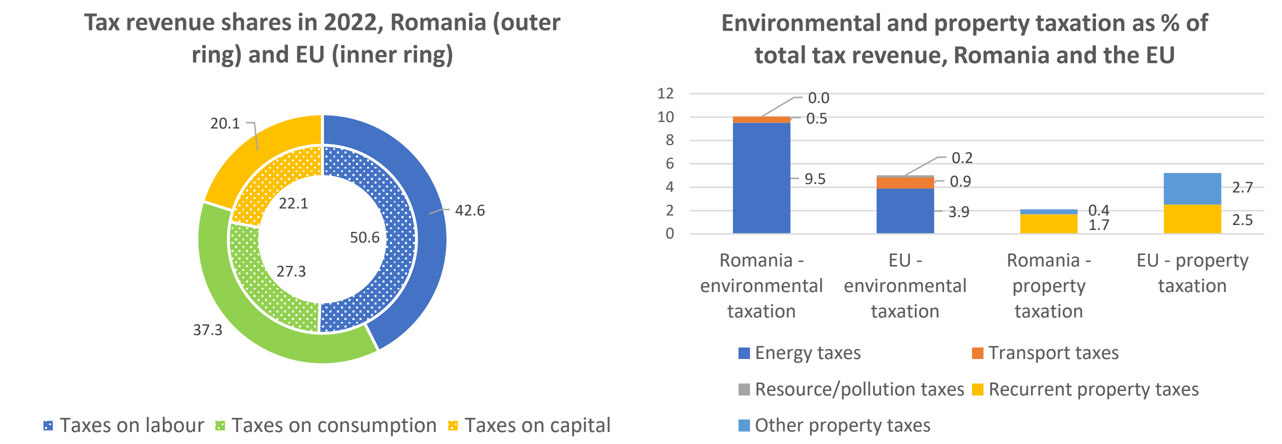
Romania has a flat-rate tax system, which is hardly progressive (unlike the EU average). Graph A19.2 shows that the labour tax wedge for Romania in 2023 was higher than the EU average for single people at 50% of the level of the average wage, close to the EU average at average wage levels, and below the EU average for higher levels of income. A relatively high tax wedge for low-wage earners may reduce labour demand for low-skilled workers. The low progressivity of the tax system also reduces the ability of the tax and benefit system to redistribute income. The tax and benefit system reduced the Gini coefficient (a measure of income inequality) in 2022 by only 5.6 pps, which is well below the EU average of 7.9 pps (see Table A19.1). Moreover, the personal income tax system is complicated by exemptions

Table A19.1:**Taxation indicators**

		Romania					EU-27				
		2010	2020	2021	2022	2023	2010	2020	2021	2022	2023
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	25.8	26.1	26.4	26.7		37.9	40.0	40.4	40.2	
	Labour taxes (as % of GDP)	10.8	12.8	12.0	11.4		20.0	21.3	20.7	20.3	
	Consumption taxes (as % of GDP)	11.1	9.9	10.3	10.0		10.8	10.7	11.2	11.0	
	Capital taxes (as % of GDP)	4.0	3.3	4.0	5.4		7.1	8.0	8.6	8.9	
	Of which, on income of corporations (as % of GDP)	2.0	1.9	2.2	3.1		2.4	2.5	3.0	3.4	
	Total property taxes (as % of GDP)	0.8	0.6	0.6	0.6		1.9	2.3	2.2	2.1	
	Recurrent taxes on immovable property (as % of GDP)	0.7	0.5	0.5	0.5		1.1	1.2	1.1	1.0	
	Environmental taxes as % of GDP	2.1	1.9	2.2	2.7		2.4	2.2	2.3	2.0	
Progressivity & fairness	Tax wedge at 50% of average wage (Single person) (*)	42.3	36.9	37.2	37.7	35.1	33.9	31.7	32.1	31.8	31.7
	Tax wedge at 100% of average wage (Single person) (*)	44.6	38.3	38.3	38.3	38.3	41.0	40.1	39.9	40.0	40.2
	Corporate income tax - effective average tax rates (1) (*)		14.4	14.4	14.4			19.5	19.0	19.0	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	6.3	6.9	6.4	5.6		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 %) (*)		48.0	41.0				40.9	35.5		
	VAT Gap (% of VAT total tax liability, VTTL)(**)	39.8	37.3	36.7	35.2			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

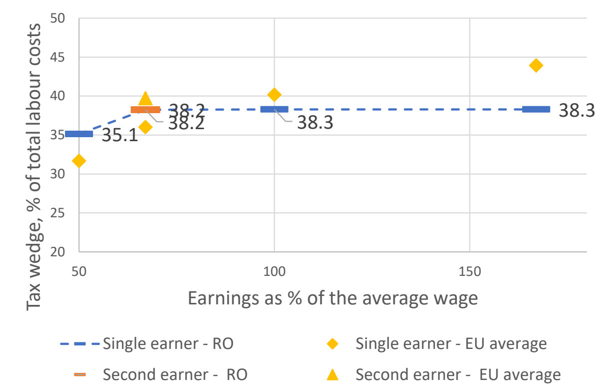
Graph A19.1: **Tax revenues from different tax types, % of total revenue**



Source: European Commission

for specific sectors (particularly construction, ICT and agriculture), special treatments (including a low dividend tax) and loopholes (including through micro-enterprises), which further impair its effectiveness and fairness.

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

Romania has experienced a persistently high VAT compliance gap. Historically, Romania's VAT gap (the gap between revenues actually collected and the theoretical tax liability) stayed well above the 30 % threshold and was substantially higher than in any other EU Member State.

It is critical to continue the reforms and make full use of the available EU support. Romania's Recovery and Resilience Plan includes ambitious reforms, such as the reform of the National Agency for Fiscal Administration (ANAF) through digitalisation; a review of the tax framework; customs modernisation; improving budgetary programming; and the reform of the public pension system in order to achieve fiscal sustainability. Such reforms must continue in order to help Romania reach its assumed targets: to increase the revenue collected by the tax administration by at least 3 pps of GDP, to reduce the VAT gap by at least 5 pps, and to ensure the fiscal sustainability of the public pension system.

An ambitious fiscal reform could help reduce the fiscal deficit. Further tax reforms, streamlining VAT and personal income taxes, could raise at least 2 pps of GDP in additional revenue – over and above the gains from the recent tax package, which will put the fiscal deficit on a sustainable medium-term track. In addition, consideration could be given to more progressive and fairer income taxation, improving budgetary spending and reducing structural deficits.

EU funds available until 2026 from the RRF and RePowerEU are significant, amounting to 1.5 pps of GDP per year. Such funding also finances measures to strengthen the capacity and effectiveness of tax administration, and particularly its digitisation. Romania has introduced VAT online cash registers; digitalised the interaction with tax administration by expanding the virtual private space (SPV); and, more recently, introduced digital reporting in the form of e-invoicing. The data collected via such systems should feed an integrated tax risk management system to close the currently high compliance gaps. A new taxation system for road transport is also planned, in line with the 'polluter pays' principle.

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

							forecast	
	2004-07	2008-12	2013-20	2021	2022	2023	2024	2025
Real GDP (y-o-y)	7.6	1.1	3.4	5.7	4.1	2.1	3.3	3.1
Potential growth (y-o-y)	.	2.5	3.9	2.5	2.6	2.9	2.8	2.7
Private consumption (y-o-y)	12.8	0.6	5.1	7.2	5.8	2.8	3.6	3.4
Public consumption (y-o-y)	1.9	1.2	2.6	1.8	-3.3	6.0	6.8	1.6
Gross fixed capital formation (y-o-y)	23.6	-3.3	4.2	2.9	5.9	14.4	6.8	6.1
Exports of goods and services (y-o-y)	13.9	7.0	5.2	12.6	9.7	-1.4	1.8	3.2
Imports of goods and services (y-o-y)	27.9	1.3	8.0	14.8	9.5	-1.4	4.2	4.3
Contribution to GDP growth:								
Domestic demand (y-o-y)	15.2	-0.6	4.6	5.4	4.4	6.4	5.2	4.1
Inventories (y-o-y)	-1.4	-0.1	0.1	1.8	0.2	-4.3	-0.8	-0.3
Net exports (y-o-y)	-6.4	1.3	-1.2	-1.5	-0.5	0.1	-1.1	-0.6
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	.	-1.1	0.0	0.0	0.1	0.1	0.0	-0.2
Capital accumulation (y-o-y)	.	2.3	1.1	1.5	1.6	2.0	2.0	2.0
Total factor productivity (y-o-y)	.	1.3	2.8	1.1	0.9	0.8	0.7	0.9
Output gap	4.7	-0.8	-0.9	-2.7	-1.3	-2.0	-1.4	-1.0
Unemployment rate	8.9	8.5	6.7	5.6	5.6	5.6	5.5	5.5
GDP deflator (y-o-y)	13.4	6.7	4.2	5.4	13.2	12.2	7.3	5.3
Harmonised index of consumer prices (HICP, y-o-y)	8.1	5.7	1.6	4.1	12.0	9.7	5.9	4.0
HICP excluding energy and unprocessed food (y-o-y)	7.4	5.8	1.8	3.1	8.8	10.9	6.8	4.5
Nominal compensation per employee (y-o-y)	15.8	7.8	9.4	6.4	13.3	18.2	11.5	6.9
Labour productivity (real, hours worked, y-o-y)	7.8	3.3	4.0	1.1	3.8	3.1	2.5	2.4
Unit labour costs (ULC, whole economy, y-o-y)	7.4	4.6	5.6	1.4	8.9	14.7	8.6	4.0
Real unit labour costs (y-o-y)	-5.3	-1.9	1.3	-3.8	-3.8	2.3	1.2	-1.2
Real effective exchange rate (ULC, y-o-y)	9.0	-3.4	2.5	-0.6	4.7	6.7	3.0	1.4
Real effective exchange rate (HICP, y-o-y)	8.8	-2.6	-0.3	0.0	2.2	3.6	.	.
Net savings rate of households (net saving as percentage of net disposable income)	.	.	.	.	.	.	.	.
Private credit flow, consolidated (% of GDP)	14.0	3.0	0.8	3.8	3.3	2.0	.	.
Private sector debt, consolidated (% of GDP)	43.7	69.0	52.6	47.9	43.7	40.4	.	.
of which household debt, consolidated (% of GDP)	12.0	20.9	16.5	15.8	14.0	12.5	.	.
of which non-financial corporate debt, consolidated (% of GDP)	31.8	48.1	36.1	32.1	29.7	27.9	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (1)	1.4	.	7.1	2.6	2.1	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-2.7	7.8	11.5	12.3	15.7	16.8	16.8	17.1
Corporations, gross operating surplus (% of GDP)	26.6	31.0	30.3	30.6	35.0	35.2	35.5	36.6
Households, net lending (+) or net borrowing (-) (% of GDP)	.	.	.	-12.4	-17.3	-15.4	-15.3	-14.8
Deflated house price index (y-o-y)	.	.	1.3	-0.2	-6.4	-5.9	.	.
Residential investment (% of GDP)	2.0	2.9	2.4	3.1	3.2	3.2	.	.
Current account balance (% of GDP), balance of payments	-10.3	-6.2	-2.9	-7.2	-9.2	-7.0	-7.3	-6.9
Trade balance (% of GDP), balance of payments	-11.4	-7.3	-2.4	-5.7	-6.7	-4.8	.	.
Terms of trade of goods and services (y-o-y)	7.5	0.9	1.4	-0.1	-1.4	2.9	0.8	1.2
Capital account balance (% of GDP)	0.5	0.6	1.9	2.2	2.5	2.1	.	.
Net international investment position (% of GDP)	-37.4	-60.2	-49.1	-47.0	-40.8	-39.8	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (2)	-5.0	-21.6	-7.8	-6.5	-4.3	-5.8	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (2)	36.1	56.3	40.4	40.3	35.8	38.6	.	.
Export performance vs. advanced countries (% change over 5 years)	.	.	23.6	14.1	10.4	11.3	.	.
Export market share, goods and services (y-o-y)	13.9	2.3	3.5	-0.2	0.0	-2.5	-1.6	-0.4
Net FDI flows (% of GDP)	.	-2.8	.	-3.7	-3.1	-2.0	.	.
General government balance (% of GDP)	-1.7	-6.3	-3.3	-7.2	-6.3	-6.6	-6.9	-7.0
Structural budget balance (% of GDP)	.	.	-2.9	-6.3	-5.9	-6.0	-6.4	-6.7
General government gross debt (% of GDP)	14.8	26.2	38.0	48.5	47.5	48.8	50.9	53.9

(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 Romania 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 overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks (Table A21.2) ([141]). Government gross financing needs are expected to amount to around 11-13% of GDP over 2024-2025 (Table A21.1, Table 1). Financial markets' perceptions of sovereign risk is stable, as confirmed by the ratings of the main agencies.

2 – Medium-term fiscal sustainability risks appear high. The DSA baseline shows that the government debt ratio is expected to increase rapidly in the medium term (to around 103% of GDP in 2034) (Graph 1, Table 1) ([142]). The debt increase relies on the assumption of a structural primary deficit of 4.4% of GDP as of 2024. Compared to historical data running from 1980, this does not appear ambitious. Indeed, 93% of past fiscal positions were more stringent than the one assumed in the baseline. (Table A21.2) ([143]). The debt increases notwithstanding a still favourable but, in absolute terms, declining snowball effect of around -0.7% of GDP annually on average over 2025-2034.

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 of -2.7% of GDP) the debt ratio would be lower than under the baseline by about 14 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 around 7 pps. in 2034. Under the *financial stress scenario* (i.e. interest rates temporarily increase by 1 pp. compared with the baseline) the government debt ratio would be higher by 0.6 pps. in 2034. Finally, under the *lower structural primary balance scenario* (i.e. the projected deterioration in the SPB from 2023 to 2024 is increased by 50%) the debt ratio would be higher than under the baseline by about 2 pps. in 2034.

The stochastic projections indicate medium risk, pointing to moderate sensitivity of these projections to plausible unforeseen events ([144]). These stochastic simulations indicate a 92% probability that the debt ratio will be higher in 2028 than in 2023, implying medium risks given the low initial debt level and high uncertainty surrounding the baseline debt projections (as measured by the difference between the 10th and 90th debt distribution percentiles, reaching around 42% of GDP in five years' time) (Graph 2).

3 – Long-term fiscal sustainability risks appear overall high. 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 ([145]). This assessment

([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 deficit, before ageing costs, of 4.4% 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 2.1%); (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.

([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 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.

([145]) 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 is driven by an unfavourable initial budgetary position and projected increase in ageing costs.

The S2 indicator points to medium fiscal sustainability risks. The indicator shows that, relative to the baseline, the SPB would need to improve by 5.2 pps. of GDP to ensure debt stabilisation over the long term. This result is primarily underpinned by an unfavourable initial budgetary position (contribution of 5 pps.) and a marginal projected increase in ageing-related costs (contribution of 0.2 pps.). Ageing costs' developments are driven by a projected increase in health-care (0.6 pps.) and long-term care spending (0.3 pps.), partly offset by a projected decrease in public pension expenditure (-0.8 pps.). (Table A21.1, Table 2). As several investments and reforms in the RRP contribute to supporting the efficiency of the Romanian health care system, it will be important to carefully monitor their implementation.

The S1 indicator points to high fiscal sustainability risks. The indicator shows that the country needs to improve its fiscal position, with an upfront adjustment of the SPB of 6.1 pps. of GDP, to bring its debt to 60% of GDP by 2070 compared with the baseline. This result is mainly driven by the current unfavourable initial budgetary position (contribution of 4.7 pps.) and the projected increase in age-related public spending (1.5 pps.). The current distance of the government debt ratio to the 60% reference value marginally reduces the fiscal adjustment need (-0.2 pps.) (Table A21.1, Table 2).

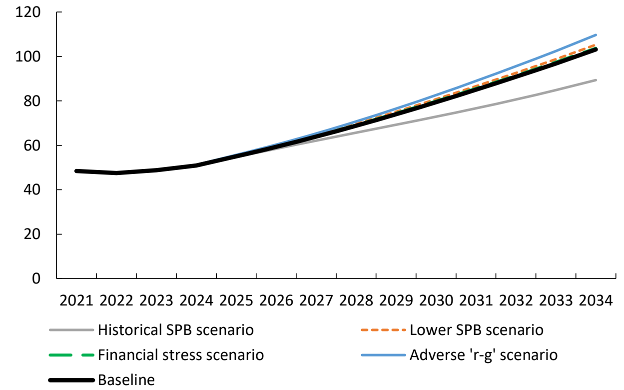
4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the recent increase in interest rates and public debt ratio, the share of debt held by non-residents, the currency denomination of debt, some exposure to non-performing loans and the country's negative net international investment position. The latter is low if non-defaultable instruments are excluded. On the other hand, risk-mitigating factors include the lengthening of debt maturity in recent years, and the low share of external, private, and short-term debt.

permanent SPB adjustment in 2025 needed 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 - Romania**

Table 1. Baseline debt projections	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Gross debt ratio (% of GDP)	**48.5**	**47.5**	**48.8**	**50.9**	**55.1**	**59.4**	**63.9**	**68.7**	**74.0**	**79.4**	**85.1**	**90.8**	**96.9**	**103.1**
Changes in the ratio	1.7	-1.0	1.3	2.1	4.2	4.3	4.5	4.9	5.3	5.5	5.6	5.8	6.0	6.3
of which														
Primary deficit	5.7	4.8	4.6	4.9	6.1	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	6.0
Snowball effect	-3.3	-5.8	-4.0	-2.8	-2.0	-1.7	-1.5	-1.1	-0.7	-0.5	-0.3	-0.1	0.1	0.3
Stock-flow adjustments	-0.6	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross financing needs (% of GDP)	10.4	11.2	13.3	11.2	13.1	14.0	15.0	16.0	17.2	18.5	19.7	21.0	22.4	23.7

Graph 1. Deterministic debt projections



Graph 2. Stochastic debt projections 2024-2028

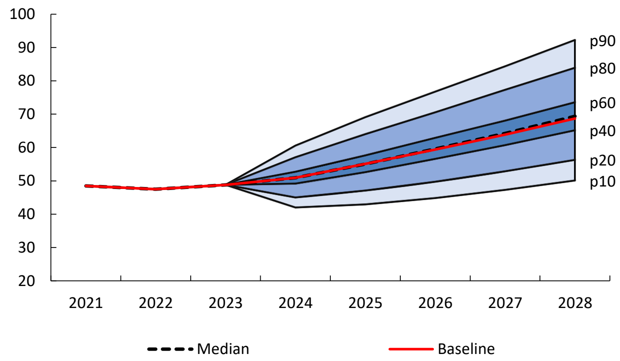


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

		S1	S2
Overall index (pps. of GDP)		**6.1**	**5.2**
of which			
Initial budgetary position		4.7	5.0
Debt requirement		-0.2	
Ageing costs		1.5	0.2
of which	*Pensions*	0.7	-0.8
	Health care	0.5	0.6
	Long-term care	0.2	0.3
	Education	0.1	0.0

Source: Commission services.

Table A21.2:**Heat map of fiscal sustainability risks - Romania**

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	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	HIGH	HIGH
		Debt level (2034), % GDP	103.1	89.4	105.2	109.7	103.7				
		Debt peak year	2034	2034	2034	2034	2034				
		Fiscal consolidation space	93%	76%	96%	93%	93%				
		Probability of debt ratio exceeding in 2028 its 2023 level						92%			
		Difference between 90th and 10th percentiles (pps. GDP)						42.1			

(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.