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2025 Country Report – Bulgaria

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Recommendation for a COUNCIL RECOMMENDATION

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

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European Commission

Bulgaria

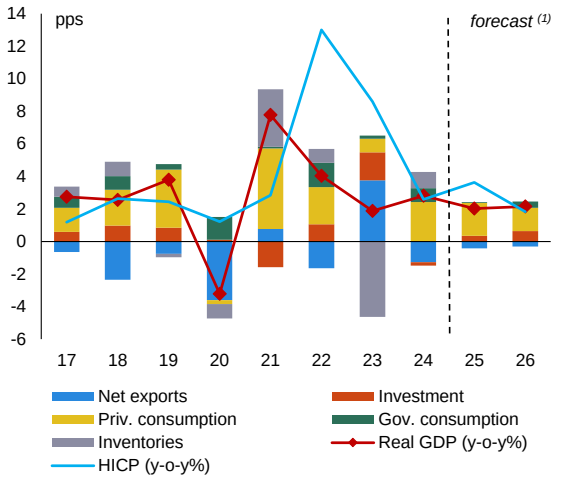
2025 Country Report

ECONOMIC DEVELOPMENTS AND KEY POLICY CHALLENGES

Consumption-led growth amid growth in real wages in a tight labour market and rising house prices

Economic growth accelerated to 2.8% in 2024, driven by private consumption. Strong nominal income expansion in 2024 was underpinned by a continued upward trend in aggregate employment, wages and increased social transfers. Combined with a decline in inflation, this trend led to growth in both real disposable income and private consumption, further supported by strong lending activity.

Graph 1.1: **HICP and real GDP growth with contributions**



(1) Commission Spring 2025 Forecast
Source: European Commission 2025

Weak external demand continued to constrain export growth. In 2024, exports of goods and services contracted in both nominal and real terms, while the country's terms of trade deteriorated. The decline in exports was most pronounced in cereals (owing to a weak harvest) and otherwise broad-based in terms of product categories. In terms of destination countries, sharp declines in exports to some countries were registered.

Investment contracted after strong expansion in the previous years. Investment in 2022 and 2023 held up well. However, it declined in 2024 by 1.1% due to lower public spending, mitigated somewhat by roughly constant private sector borrowing. Firms accumulated more inventory in the form of unfinished production and goods in 2024, in parallel with the country's increase in imports and a decline in finished construction. Real GDP growth is forecast to slow down to 2% in 2025 and 2.1% in 2026, due to precautionary savings and subdued external demand in the context of high uncertainty (see Graph 1.1).

The labour market continued to perform well overall, although labour cost pressures have been significant. The unemployment rate has been at historically low levels, slightly above 4% since 2022, amid increasing rates of both labour-force participation and employment. The tightness of the labour market, combined with the increase in the minimum wage at the beginning of 2024 has pushed up aggregate nominal wages well beyond inflation and productivity gains. Nevertheless, aggregate wage growth decelerated throughout 2024. Manufacturing firms optimised production costs through labour shedding to accommodate the sizeable wage increases in the sector. Buoyant domestic demand led to intensified hiring and strong wage increases in the services sector. Nevertheless, wages in key service sectors (e.g., trade, transport and hospitality) grew much more moderately in 2024. Domestic cost pressures in services sectors that saw low-productivity gains in 2024 contributed to higher value-added deflators in these sectors. Overall, economy-wide unit labour costs have increased strongly, although growth in unit labour costs

significantly decelerated in 2024. Wage increases in the public sector were also an important factor in the strong aggregate wage dynamics in 2023 and 2024.

The high inflation has abated further in 2024 but increases in taxes and regulated prices have led to inflation picking up again at the beginning of 2025. All components of the consumer basket (measured by HICP) saw considerable disinflation in 2024. Services-sector inflation also slowed down, reflecting the lower inflation in key inputs, such as food and fuel. Annual HICP inflation, however, rose from 2.1% in December 2024 to 3.8% in January 2025 for several reasons. After the expiration of VAT reductions at the end of 2024 for bread, flours and catering services, prices in these categories increased. Other items in the food basket also registered high month-on-month increases, reflecting either international commodity prices (coffee, edible oils) or higher excise duties (cigarettes). Electricity and gas prices for households also increased, reflecting regional market conditions. Other utilities prices, like water supply, sewerage and waste collection also increased in January 2025. Prices of telecommunication services reported an increase above expectations. In parallel, unit labour cost growth slowed in 2024 in favour of the deceleration in services inflation. As the hikes at the beginning of the year were related mostly to administrative decisions, they are regarded as one-time events and their effects are expected to wane toward the end of the year. In addition, the increases were partially offset in April by lowered hospital fees, other administered prices and lower gas and fuel prices. Overall, HICP inflation is projected at 3.6% in 2025 and 1.8% in 2026 (see Graph 1.1).

House prices continue to grow in line with average income growth. House prices have nearly doubled in the last decade. However, these increases have been offset in line with growing average incomes. Nevertheless, risks for housing affordability could be elevated for lower-income households. Furthermore, rising prices and high demand for housing may be linked with the low level of financial literacy in the country (Annex 5). The growth of households' deposits remains strong. At the same time, interest rates on new time deposits offered by the largest banks as well as rates on outstanding amounts of time deposits have remained close to 0%, unlike the increase in deposit rates observed in other Member States during the ECB's monetary tightening period.

Mortgages continue to grow amid very low borrowing rates. The value of new housing loans increased by 43% in 2024, after growing by 20% in 2023. This was supported by very low lending rates, as banks continue to have ample cheap liquidity from deposits. Nevertheless, both the stock of mortgages and the share of the population that has a mortgage remain very low. In 2024, Bulgaria's central bank imposed some borrower-based limits on commercial banks. The limits appear targeted at the low-income, higher-risk borrowers that would be the first and hardest-hit by adverse economic conditions (see Annex 5 for details).

Bulgaria is continuing its efforts to integrate more within the EU. Joining the euro area remains a political priority of Bulgaria, and the government's target date is to join in 2026. In February 2025, Bulgaria asked the Commission and the ECB for their convergence assessments. On 1 January 2025, Bulgaria and Romania became full members of the Schengen Area. The country is also working towards joining the Organisation for Economic Cooperation and Development (OECD) by implementing an action plan agreed with the OECD.

Structural bottlenecks weigh on growth potential

Moving ahead with important structural reforms, including those in the recovery and resilience plan, remains challenging. Bulgaria has taken measures to improve its institutional framework and the business environment, notably in the four areas covered by the post-entry ERM II commitments. However, other important measures to improve the business environment, reinforce the rule of law and facilitate the green

transition have faced significant delays. A period of protracted political instability has impeded a consistent policy approach to implementing these measures, which remain crucial for improving the country's competitiveness.

Aggregate labour productivity growth has slowed down in the last couple of years. For the economy to follow a higher economic growth trajectory, it is necessary to adopt new technologies and boost services with high value added. This requires putting in place the necessary enabling factors. Government policies that provide the enabling conditions (such as infrastructure, skilled workers, sound institutions and an environment conducive to do business and innovation) are necessary to preserve and further increase Bulgaria's competitiveness.

To become more competitive and converge more quickly with its EU peers, Bulgaria needs a dynamic business sector, benefiting from fewer barriers, a level playing field, and the rule of law. Businesses in the country say that the most significant hindrances to a better business environment are corruption, frequent changes in regulations, bureaucracy, and biased public procurement ([1]). Regulatory barriers remain higher in Bulgaria than in comparable countries for lawyers, notaries, architects and civil engineers (see Annex 4). In recent years, supervisory and regulatory authorities have operated with an expired mandate for prolonged periods of time. Businesses have consistently complained about the quality of regulatory work ([2]) and the failure to ensure a level playing field ([3]).

Enabling factors need to improve to accelerate convergence with Bulgaria's EU peers

The high energy intensity and greenhouse-gas emissions of Bulgarian industry remain key obstacles for the modernisation of some sectors. Heavy industries in the country, such as metals and chemicals industries, have caused increase in emissions since 2017, even as average EU emissions have dropped. Transport remains the sector with the greatest emissions. Notably, emissions have increased by a third since 2005 compared with a 5% drop EU-wide. The uptake of clean mobility in the country is low amid a lack of government incentives and investments in the sector.

Investing in renewables could boost competitiveness. Investments in solar installations slowed down in 2024, and investment in wind installations has been negligible for over a decade. Insufficient storage and grid capacities act as a barrier to the further roll-out of renewables and increase price volatility.

Demographic trends and skills shortages continue to hinder Bulgaria's competitiveness. Bulgaria lost 19.1% of its working age population between 2011 and 2021. This was mainly due to natural decrease of the population and migration outflows in the early part of this period. Despite recent positive net migration flows, labour force continued to decrease as a result of the shrinking and ageing population. The population lacks basic digital skills. Efforts to support up-skilling and re-skilling are ongoing, but more efforts are needed to increase adult participation in learning, an area in which the country has the lowest ranking in the EU (see Annex 12).

Disadvantaged groups are less likely to find work, limiting their contribution to economic output. The share of young people (15-29) neither in employment nor in education nor in training is still high despite a decrease recorded in recent years. Additionally,

([1]) Bulgarian Industrial Association – 2024 through the eyes of the business.

([2]) EIB Investment Survey 2022 – EU overview.

([3]) EC Rule of Law Report 2023, 2024.

the gap in employment between persons with and without disabilities is much larger than in other Member States. Moreover, less than half of Roma are in some form of employment (see Annex 10).

Despite some improvements, the education system fails to prepare students for successful entry into the labour market. According to the latest PISA test results, about half of 15-year-old students lack basic numerical and reading competences. The problem is even more pronounced among students from disadvantaged backgrounds. This also translates into higher education, where participation is low with the share of graduates still below the EU average (see Annex 12).

Regional disparities remain high. In terms of GDP per capita, the region that includes the capital Sofia stands at 97% of the EU average compared with 40-56% in the other regions. Such disparities include gaps in labour productivity, demographics, education and trainings, employment, activity rates, transport and other infrastructure, competitiveness and research and innovation. Those disparities are especially evident in the north of the country. In addition, the lower administrative capacity in some regions further impairs their ability to absorb funds and deliver public services and policies (see Annex 17).

The labour market is also characterised by significant regional disparities. According to 2024 data, employment rates vary significantly between urban and rural areas, at 81.1% and 68.5% respectively.

Box 1:

UN Sustainable Development Goals (SDGs)

Bulgaria continues to improve in most indicators related to productivity (SDGs 4, 8 9) and fairness (SDGs 1, 3, 5, 7 and 10) but still needs to catch up with the EU on all indicators. The gap between Bulgaria and the EU average is largest on the indicators for quality education (SDG 4), in particular, in adult learning and the share of low-achieving 15-year-olds in mathematics.

The country has almost reached the EU average on affordable and clean energy (SDG 3) and clean water and sanitation (SDG 6). Despite some progress on indicators for peace, justice and strong institutions (SDG 16), more efforts are needed to converge with the EU in the area of macroeconomic stability (SDGs 8 and 16).

Regional disparities and inequality remain high

Bulgaria has long-standing challenges in all areas of the social sphere, such as poverty, social exclusion, inequality, healthcare and regional disparities.

Income inequality is decreasing but remains among the highest in the EU. Income inequality is also uneven across regions. Another persistent challenge is insufficient access to long-term care. Some groups continue to be left behind, especially Roma, but also young people and people with disabilities (see Annex 11).

Employment rates also vary greatly across regions, with the highest employment rate in the southern region of Bulgaria (home to the capital city of Sofia) at 79.9%, compared to the north-western region, bordering Romania, where the employment rate stood at 69.3%.

Public finance developments are marked by expenditure increases not matched by equally stable revenues

The general government deficit increased to 3% of GDP in 2024. Recent reforms have helped to improve the adequacy of pensions. As a result, increases in spending are expected

until 2027. Public sector salaries grew in part due to the higher minimum wage, and in part due to additional increases in some areas, such as for education staff. Further increases in spending came from an increase in social benefits. In 2024, these spending pressures were not accompanied by fully compensatory measures. Revenues were supported through measures to strengthen revenue collection and fight tax evasion and avoidance.

Box 2:

Barriers to private and public investment

Private investment in Bulgaria has consistently been lower than what is needed to ensure fast economic convergence with its EU peers and keep up with technological progress. This has been a result of political instability, the lack of a level playing field, and the slow uptake of clean-energy technologies, especially in energy-intensive industries and transport. Income taxes for both businesses and employees are low, and the overall tax burden (including all social contributions) is relatively attractive for investors. Nevertheless, several main barriers limit private investment, the three most significant of which are set out in the bullet points below.

- **High regulatory barriers, frequently changing regulations and bureaucracy** make the investment process difficult.
- **A widespread perception among businesses of corruption** erodes trust and makes it less attractive to do business in the country.
- **The slow deployment of renewables and decarbonisation measures,** including those from the RRP, hold back the modernisation of transport and industry.

Bulgaria has a track record of disciplined public finances, but public investment management needs improvement. Recent reforms have improved the planning of public investment, including via the recently introduced investment programme for nationally financed investments and capital budget ceilings (Annex 1). Nevertheless, barriers to efficient public-investment spending remain. Three of the most significant of these barriers are set out below.

- **A lack of objective value-for-money assessments of projects.** Although criteria to prioritise ongoing projects against new projects are in place, standardised methods to assess benefits and costs are missing (Annex 1).
- **A lack of competitive and effective public procurement combined with difficulty in implementing investments.** Implementing investments has been difficult and significantly delayed due to: (i) slow procurement; (ii) many – often successful – complaints by candidates; and (iii) the resulting lack of time for implementation. A reform in the plan to reduce some of those procurement issues is being implemented.
- **The limited use of ex post reviews.** Bulgaria does not carry out ex post reviews systematically, thereby limiting the possibility of learning from past mistakes and improving planning and implementation in the future.

The implementation of Bulgaria's RRP is significantly delayed. At present, Bulgaria has fulfilled 23% of the milestones and targets in its RRP. In addition to the challenges above, the main bottlenecks to EU funds implementation are delays in procurement, political instability, ineffective governance and insufficient administrative capacity. In April 2025, Bulgaria submitted a comprehensive revision of its RRP, including a REPowerEU chapter, with a view to bringing the plan back on track and achieving its ambitious objectives.

It remains important to accelerate the implementation of cohesion policy programmes. The mid-term review offers opportunities to speed up progress and better address EU strategic priorities related to competitiveness, defence, housing, water resilience and the energy transition.

While Bulgaria has signalled interest in leveraging the Strategic Technologies for Europe Platform under cohesion policy, Bulgaria can further support the development or manufacturing of critical technologies in the areas of digital and deep tech, clean and resource efficient technologies, and biotechnologies.

The general government deficit is set to remain at a level close to 3% of GDP going forward. Bulgaria only adopted its 2025 budget on 21 March 2025. The budget targets a deficit of 2.9% of GDP in 2025, consistent with the country's medium-term fiscal structural plan. In its latest forecast, the Ministry of Finance expects a deficit of 2.2 % in 2026, 4.1 % in 2027 and 1.9 % of GDP in 2028. The statistical recording of past military purchases will have an impact of 0.5% of GDP in 2025 and 1.6 of GDP in 2027. According to the Commission's Spring forecast, the deficit is expected to amount to 2.8% of GDP in 2025 and 2.8% of GDP in 2026. The planned budget balance for 2025 mainly relies on the revenue-side on taking all of the profits of state-owned companies and further measures against tax evasion and avoidance. Revenue is further supported by: (i) increases in excise duties on tobacco products; (ii) the normalisation of several VAT rates; and (iii) increases in maximum and minimum insurable income. On the expenditure side, public sector salaries are expected to continue to grow, in line with recent trends, with especially marked increases in the defence sector. Public investment is set to increase, in line with the efforts to advance the implementation of the RRP and also driven by strong increases in defence investment due to the accrual of planned deliveries of military equipment. The general government debt-to-GDP ratio is forecast to increase from 24.1% in 2024 to 25.1% in 2025 and further up to 27.1% by 2026

Net expenditure is expected to grow in line with the commitments. In 2024, net expenditure ([4]) in Bulgaria grew by 10.4% (see Annex 1). This increase is mainly driven by increases in pensions and public sector salaries. The revenue-increasing impact of discretionary revenue measures, notably on fighting tax collection and avoidance, as well as one-off expenditure to settle outstanding liabilities worth 0.5% of GDP were netted from the expenditure. In 2025, net expenditure is forecast by the Commission to grow by 9.2%, which is above the maximum growth rate as reported by Bulgaria in its medium-term fiscal-structural plan ([5]). This is due to the combination of expenditure increases due to pensions and public sector salaries and of a marked increase in expenditure on defence, including investment, as well as to higher public investment. The one-off treatment of the settlement in 2024 also contributes to the growth, as it creates a lower starting base in 2024. Based on current projections for defence spending, the projected deviation in 2025 is allowed under the conditions of the national escape clause that Bulgaria requested to activate on 2 May 2025.

Public investment management remains inconsistent and lacks predictability, and this negatively affects businesses. The IMF (2022) estimates that Bulgaria's public capital stock levels are among the lowest in the EU, underlining the need to more efficiently allocate public resources for priority areas ([6]). There are significant discrepancies between plans and actual spending on public investment, and underspending on capital expenditure execution appears to be structural. Capital expenditure serves as an implicit budget buffer, but this under-execution also suggests potential issues in the capacity of public agencies to implement investment projects within planned timelines. This is compounded by weaknesses in capital budgeting, including a rigid budgeting rule that prevents state bodies from carrying forward unspent funds from year to year. This rigid budgeting rule hinders long-term planning and

([4]) Net expenditure is defined in Article 2(2) of Regulation (EU) 2024/1263 as government expenditure net of (i) interest expenditure, (ii) discretionary revenue measures, (iii) expenditure on programmes of the Union fully matched by revenue from Union funds, (iv) national expenditure on co-financing of programmes funded by the Union, (v) cyclical elements of unemployment benefit expenditure, and (vi) one-off and other temporary measures.

([5]) The medium-term plan has been positively assessment by the Commission (Commission recommendation for a Council recommendation endorsing the national medium-term fiscal-structural plan of Bulgaria, COM/2025/238 final).

([6]) Hallaert, J. J., and K. Primus (2022). 'Strengthening Public Expenditure Efficiency Investment and Social Spending in Bulgaria', IMF, Strengthening Public Expenditure Efficiency: Investment and Social Spending in Bulgaria.

creates inefficiencies ([7]). Bulgaria has started a process to improve its public-investment management, including by setting up a dedicated fund in the 2024 State Budget Law. Nevertheless, weaknesses in this area remain (see Box 2).

([7]) OECD (2023), 'Public Investment in Bulgaria: Planning and Delivering Infrastructure', OECD Public Governance Reviews, OECD Publishing, Paris, https://doi.org/10.1787/b73ef3b4-en.

INNOVATION, BUSINESS ENVIRONMENT AND PRODUCTIVITY

The role of research & innovation in the competitiveness landscape

Bulgaria has one of the lowest levels in the EU of public and private R&D investment. According to the 2024 European Innovation Scoreboard, Bulgaria's innovation performance has increased over time, but more slowly than that of the EU, and Bulgaria remains only an 'emerging innovator'. Both public and private R&D investment remain at very low levels. In 2023, public R&D expenditure was 0.28% of GDP compared with 0.72% in the EU. Private R&D expenditure was 0.51% of GDP compared with 1.49% in the EU. Furthermore, innovation output in Bulgaria is low, as evidenced by the country's low patent intensity and its below-EU-average number of scientific publications and citations (see Annex 3).

Bulgaria's public research landscape is highly fragmented, hindering innovation and competitiveness. Bulgaria has many higher education institutions and research organisations, making it difficult to coordinate and implement effective R&D policies. Bulgaria's low levels of R&D expenditure are exacerbated by: (i) a lack of coordination at the government level; and (ii) the practice of spreading limited funds across many higher education institutions and research organisations. This also prevents researchers from achieving a critical mass, ultimately impacting the quality of the public science base ([8]), which is the lowest in the EU.

Academia-business links in Bulgaria are limited. Science-business cooperation as reflected in the share of public-private scientific co-publications is well below the EU average. Progress is also hampered by the lack of incentives for cooperation between academia and business and the underdeveloped technology-transfer ecosystem. As part of the reforms under the Recovery and Resilience Facility (RRF), the Research and Innovation Act adopted in 2024 lays down plans for the creation of a government advisory council on research and innovation. This advisory council aims to promote links between academia and business. Improving those links could help to further close the innovation gap in certain areas of applied research (see Annex 3).

The uptake of digital technologies in Bulgaria is very low. In 2024, only half of the country's SMEs had at least a basic level of digital intensity, far below the EU average of 73% and putting it last among EU Member States. This further exacerbates Bulgaria's innovation challenges. The RRF is supporting the deployment of digital technologies in SMEs and the improvement of their readiness for the subsequent adoption of 'Industry 4.0' technologies (see Annex 3).

Business environment – administrative burden and simplification

Bulgaria's public procurement system lacks competition. Bulgaria has made some progress in reforming its regulatory framework

([8]) As measured in scientific publications of the country within the top 10% most cited scientific publications worldwide as a percentage of the country's total scientific publications. This was 3.3 (2021) in Bulgaria vs 9.6 (2023) in the EU (see Annex 3).

on public procurement. Nevertheless, as part of the reforms under the RRF, the high (and increasing) share of procurement procedures with a single bidder (36% in 2024) and the share of negotiated procedures without prior publication remain a concern (see Annex 4). Corruption risks in public procurement remain high. This results in businesses being deterred from participation, citing biased conditions and evaluations. The World Bank (2023) estimates that addressing weaknesses in public procurement processes, including non-competitive practices and corruption, could potentially save about 5.3% of the total value of contracts, or approximately BGN 1.3 billion ([9]).

The perception among businesses that corruption is widespread remains high. 88% of companies consider that corruption is widespread (against an EU average of 65%) and 57% consider that corruption is a problem when doing business (EU average: 36%) ([10]). Moreover, only 14% of companies believe that people and businesses caught bribing a senior official are appropriately punished (against an EU average of 31%) ([11]). Under the RRF, Bulgaria has planned a reform to further combat corruption at all levels of public administration and in the justice and prosecution systems. Full implementation of this reform would help address those issues and improve corruption perceptions among businesses. Bulgaria has also adopted legislative amendments to put in place a mechanism that would ensure the effective accountability and criminal liability of the Prosecutor General and their deputies. It remains crucial for Bulgaria to continue these efforts to fully finalise and implement the reform.

Political favouritism in public procurement weighs on productivity and competitiveness. A recent World Bank study ([12]) shows that politically connected companies in Bulgaria are much more likely to win public contracts, having preferential access to uncompetitive tenders. This is shown to result in lower productivity and employment growth for those companies as well as higher corporate profits. Addressing these issues would help to support fair competition, the efficient allocation of resources and, ultimately, economic growth.

Administrative burden and regulatory barriers in Bulgaria remain high. According to a national survey, businesses cited bureaucracy as a major obstacle (60% of surveyed businesses agreed), alongside concerns about frequently changing regulations (47% agreed) and corruption (47% agreed). These issues are reflected in low rankings in the OECD's economy-wide indicator on the regulation of product markets in the sub-component 'administrative requirements for limited liability companies', where Bulgaria ranks second lowest. This could be improved by digitalising administrative processes and reducing fees for starting a business. Regulatory barriers remain higher in Bulgaria than in comparable countries for lawyers, notaries, architects and civil engineers. World Bank indicators also highlight regulatory barriers to trade and business operations (see Annex 4).

Ensuring adequate administrative capacity remains difficult. Attracting graduates is difficult with the share of civil servants below 40 years-old falling consistently over the last few years. Also, nearly half of central government posts have remained unfilled for over 6 months. Better talent management, more training and exchange programs could be considered to increase the attractiveness of working in the public administration.

Resource limitations and political influence reduce the quality of work of

([9]) World Bank (2023). Bulgaria - Public Finance Review. The World Bank Group. Available: World Bank Document

([10]) See 2024 Rule of Law Report, country chapter on Bulgaria, p. 15.

([11]) See 2024 Rule of Law Report, country chapter on Bulgaria, p. 15.

([12]) Procuring Low Growth : The Impact of Political Favoritism on Public Procurement and Firm Performance in Bulgaria.

regulatory bodies. Most regulators rely on state budget funding and their staff is bound by the civil service code, making it more difficult to attract talent and experts from the regulated sectors. Moreover, there are significant discrepancies between the levels of salary across and within regulators ([13]), and this affects the quality of regulation. Political independence is often limited to the executive branch, while the Parliament plays: (i) a direct role in the work of regulatory bodies by selecting and appointing regulators; and (ii) an indirect role in the work of regulatory bodies via the funding approved through the state budget. As a result of the protracted political instability in Bulgaria, many regulatory authorities have operated – or continue to operate – with an expired mandate. This further contributes to regulatory and administrative uncertainty – one of the main obstacles cited by Bulgaria's businesses (see above). Existing legislation does not provide for the independence of regulatory bodies from market participants, including in sectors like energy where state-owned companies play a significant role ([14]).

How to boost productivity?

Productivity growth remains low despite ongoing convergence with EU peers. Growth in labour productivity in Bulgaria has been consistently above the EU average in the past decade, indicating ongoing convergence with the EU. Nevertheless, growth in labour productivity remains considerably below that of peers, and was only half of that observed in Croatia and Romania over the past three years.

Investment stands out as a crucial factor to boost productivity, but is limited in Bulgaria due to structural obstacles. Capital 'deepening', or the overall increase in capital available per worker, is making a low contribution to labour productivity in Bulgaria. To increase potential growth, it is important to increase investment in productive sectors like manufacturing and information and communication technologies. Among the obstacles for investment that Bulgarian companies point to, those that stand out as being worse than the EU average are: (i) the lack of skilled workers; (ii) uncertainty about the future; and (iii) the country's poor transport infrastructure. Public policy could address these obstacles via reforms and investments and by reducing uncertainty through better planning.

Increases in labour productivity are largely due to the sectoral reallocation of workers, and this needs to be sustained. The sectors that have seen the highest growth in productivity have increased their share in the overall Bulgarian economy. These sectors include financial services, information and communication technology, manufacturing, and trade. Companies in these sectors are also able to attract more investment, often foreign, which may also enable them to introduce new technologies, further increasing their productivity. A more supportive business environment could help speed up this process. Labour-intensive sectors, including construction, transport and agriculture have lost market share and seen average labour productivity stall – or even turn negative – over the past 20 years, as workers who are able to increase their productivity relocate to other sectors. Supporting a well-educated and skilled labour force and providing suitable conditions for the development of growth industries would be crucial for productivity growth.

([13]) Analysis on the compensation of civil servants https://jobs.government.bg/PJobs/publExtData.jsf?idPubl=801

([14]) Assessing the independence and effectiveness of national regulatory authorities in the field of energy - Publications Office of the EU.

DECARBONISATION, ENERGY AFFORDABILITY AND SUSTAINABILITY

Decarbonisation and sustainability as a driver for competitiveness

The energy intensity and the energy-related greenhouse-gas emissions of manufacturing in Bulgaria remain high. The energy intensity of manufacturing decreased between 2017 and 2022 to 2.45 GWh/EUR of gross value added (GVA). However, it remains significantly higher than the EU average (1.05 GWh/EUR of GVA). Between 2017 and 2022, greenhouse emissions from industrial processes and product use declined in Bulgaria more than in the EU as a whole. At the same time, the energy-related greenhouse-gas emissions of Bulgaria's manufacturing industry increased by 6% since 2017, while in the EU it decreased by 11% in the same period (see Annex 7). The production of metals and chemicals are key contributors to this increase. Consistent efforts to (i) support the decarbonisation of manufacturing activities, particularly in energy-intensive sectors, and (ii) reduce energy consumption in industry, can be expected to provide lasting environmental and productivity gains to the economy.

The decarbonisation of energy production is a significant challenge for Bulgaria, and the regions of Stara Zagora, Kyustendil and Pernik in particular. These three regions face significant socio-economic challenges linked to the phasing out of coal and reductions in greenhouse-gas emissions. The measures planned under the Just Transition Fund are expected to help tackle some of these challenges. These measures include: (i) the development of photovoltaic parks with electrolysers and/or energy storage systems; (ii) the establishment of industrial parks for clean technologies; (iii) the creation of hydrogen-based value chains; and (iv) the use of green hydrogen. It is important that Bulgaria keep the implementation of these measures on track.

Efforts to enhance the integration of Bulgarian firms in clean tech sectors within the domestic ecosystem could strengthen the country's competitiveness. Bulgarian firms in clean tech value chains display limited integration within the domestic economy and heavy reliance on foreign suppliers, with only 25% of their supplier network being domestic. At the same time, Bulgarian firms have limited links in international buyer and supplier networks, with only overall 17 distinct supplier countries and buyers from only 7 buyer countries ([15]). There is therefore a potential for Bulgaria to enhance its connectivity and weight within the network by building a richer domestic ecosystem. In addition to maintaining the possibility for support under the Investment Promotion Act, streamlining the permitting processes could contribute to attracting investments in Net-Zero technologies manufacturing.

Clean transport technologies display a limited uptake in the Bulgarian market. Transport represents the most emitting sector in Bulgaria. Greenhouse-gas emissions from road transport increased significantly between 2005 and 2023 in Bulgaria, even as they decreased in the EU overall. In 2023, electricity accounted for only a small share of Bulgaria's final energy consumption in the transport sector, and battery electric vehicles correspond to only 0.2% of all passenger cars ([16]), showing the limited market penetration of electric mobility. The country's recharging

([15]) Clean Tech Value Chains : Using Trade Data to Guide a Complex Policy Space - Part Two, World Bank.

([16]) European Alternative Fuels Observatory.

network has rapidly grown, and further expansion is expected. Further efforts to increase grid capacity and ensure an even geographical distribution of charging infrastructure have the potential to strengthen the business case for the uptake of clean-transport technologies in Bulgaria. Together with measures to facilitate a modal shift to less-polluting transport modes, this is expected to help reduce transport-related emissions and mitigate the economic impacts of ETS2, the EU's new emissions trading system.

Bulgaria has the potential to make competitiveness gains while contributing to the EU's independence in the supply of critical raw materials. Bulgaria has deposits of primary metals and other elements, including some on the EU's list of critical raw materials. This means that it would be possible for the country to help meet some of the EU's critical-raw-material needs. However, Bulgaria's implementation of the EU's Critical Raw Materials Act is delayed. Timely delivery of obligations under the Critical Raw Materials Act (such as preparing a database on critical raw materials and setting up an information and project support unit) would provide an opportunity for Bulgaria to: (i) strengthen its position as a supplier of critical raw materials; and (ii) further integrate in European value chains. Furthermore, while Bulgaria's level of import dependency for raw materials is below the EU average, enhancing (i) the diversification of Bulgaria's supply sources for imported raw materials (for example, iron and non-alloy steel, aluminium and fertilisers) and (ii) the circular use of materials, has the potential to further reduce dependence on single supply sources and strengthen the resilience of EU value chains (see Annex 7).

Bulgaria records sizeable fossil fuel subsidies with no planned phase-out before 2030, representing 0.82% of Bulgaria's GDP (see also Annex 8)**.** Scaling down and phasing out these subsidies is in line with EU commitments and can contribute to more fiscal space. Fossil fuel subsidies that address neither energy poverty in a targeted way nor respond to genuine energy security concerns, hinder electrification and are not crucial for industrial competitiveness could be considered for priority phase-out. The remaining fossil-fuel subsidies that are particularly harmful from an economic and environmental perspective include: (i) feed-in-tariffs for combined heat and power (CPH) and district heating; and (ii) the systematically renewed order of the state for the purchase of electricity from the Maritsa East II thermal power plant.

Energy affordability and competitiveness

High electricity prices pose a significant challenge to Bulgaria's economy and undermine its competitiveness. Bulgaria does not yet benefit from liberalised electricity markets, in particular a liberalised wholesale market, in which demand and supply meet in an unconstrained way. Such markets typically allow for prices to reflect short-term dispatching constraints, interconnector flows, and flexible demand, so that the allocation of electricity and associated revenues provides the best incentives to all market participants. In 2024 Bulgaria had the fourth-highest wholesale electricity prices in the EU. The high prices are driven partially by the continued reliance on fossil fuels, with coal still accounting for approximately 25% of electricity generation, and the limited availability of non-fossil flexibility (see Annex 8). Bulgaria has imposed a windfall tax on electricity generators' and traders' sales, directing part of their revenues to the Electricity System Security Fund (ESSF). This tax on market revenues negatively affects investment incentives, particularly for new RES capacities. In addition, an electricity price cap for non-household consumers (renewed in 2024) removes incentives for demand-side flexibility – including energy efficiency – once day-ahead prices exceed EUR 90 MWh. This leads to increased peak demand, ultimately driving up peak prices on the day-ahead market. Moreover, the electricity price cap on non-household consumers hinders the development of long-term contracting. The Bulgarian RRP includes an important reform to liberalise electricity markets. For wholesale

markets, this reform aims to facilitate the entry of new renewable energy sources, including flexible assets such as storage installations, and therefore decrease wholesale prices, ultimately improving the competitiveness of the Bulgarian industry. On the forthcoming liberalisation of the retail market, Bulgaria has not yet launched awareness campaigns, nor has it developed a system to identify energy-poor and energy-vulnerable households, which is essential for the implementation of a targeted compensation system. A liberalised retail market will allow for the introduction of competitive pricing determined on the basis of market conditions.

There has been a slowdown in installations of solar photovoltaics (PV), while wind installations continue to stagnate. In 2024, Bulgaria added 1 GW of new renewable energy capacity (mostly solar PV), contributing to a 34% year-on-year increase in total capacity, down from 67% in 2023 (see Annex 8). In more than a decade, almost no new onshore wind capacity has been installed in Bulgaria, due to complex and lengthy permitting procedures. Furthermore, Bulgaria's estimated offshore wind potential of 26 GW of fixed and floating installations remains untapped, with a regulatory framework, including a maritime spatial plan, still missing ([17]). Wind installations can help balance the country's electricity system when solar PV and hydropower generation is not available, helping to reduce electricity prices.

Insufficient storage and grid capacity create significant bottlenecks for scaling up renewables and exacerbate price fluctuations. Bulgaria's grid connection capacity for renewable energy installations is very limited, especially at the distribution level, requiring additional investments in the network for the continuous integration of renewables. Furthermore, due to the lack of sufficient short-term storage capacity and the need to rely on expensive fossil-fuel generators, Bulgaria experiences one of the highest wholesale price swings in the EU with a daily, average variation in wholesale prices of 185 EUR/MWh in 2024 ([18]). The delay in the implementation of the RESTORE investment under the RRP, which would add at least 3 000 MWh of usable energy storage capacity, further prolongs this issue.

Climate adaptation and preparedness

Bulgaria faces significant challenges in climate adaptation, including a wide climate-insurance coverage gap and increased vulnerability to extreme weather events such as heatwaves and heavy rainfall. The country has a medium level of vulnerability to floods, and its water-management system is under strain. It has the highest rate of water loss in the EU (over 60%) and a deteriorating supply infrastructure for public water. Furthermore, the compliance rate with the Urban Wastewater Treatment Directive is only 31%, and the country has not yet reported its third river basin management plan. Additionally, while the common agricultural policy plan for Bulgaria includes measures to improve water quality and sustainable water use, current water quality in Bulgaria is also a concern, with a high level of nutrients leached from agriculture affecting water status and causing the country's failure to meet the objectives of the Water Framework Directive (Annex 9).

The country's water resilience is further compromised by its high vulnerability to droughts, with 9.3% of ecosystems suffering from severe drought in 2020. The average impact of droughts on ecosystems is significantly higher in Bulgaria than in other EU countries. Bulgaria has already taken some steps to address its water-resilience challenges. For example, Bulgaria has implemented measures to reduce water losses, with a focus on improving the

([17]) 2020 Offshore wind technical potential in Bulgaria, World Bank document.

([18]) Key developments in European electricity and gas markets, ACER 2025 Monitoring Report.

efficiency of its water supply system. The country has also reported its second flood-risk management plan. However, further efforts to address the significant investment gaps in water management would be beneficial, with an estimated EUR 439 million per year needed to meet the requirements of the Water Framework Directive and the Floods Directive.

Bulgaria faces significant economic risks from climate-related events, with substantial potential losses and limited protection, highlighting the need for better water-management and climate-resilience measures. The economic losses in Bulgaria from weather- and climate-related extreme events, including floods and droughts, are significant, with EUR 5.2 billion in losses between 1980 and 2023, of which only 2% (EUR 93 million) was insured. This makes Bulgaria one of the EU countries with the lowest levels of protection against economic losses from climate-related extreme events, as the country's insurance coverage in this area is well behind the EU average of around 18.5%. This shows that Bulgaria needs to improve its water management and climate resilience, for example by: (i) investing in sustainable water practices; (ii) reducing water losses; and (iii) promoting the more efficient use of water resources (Annex 9). To respond to these challenges, Bulgaria has put several national governance structures in place, including: (i) a national climate adaptation plan; (ii) a 2030 climate adaptation strategy; (iii) a national expert council on climate change; (iv) a climate-change coordination council; and (v) a unified rescue system and focal point for the collection and reporting of environmental data. However, the country's institutional capacity to address climate-change and water-management challenges is still limited, and more efforts are needed to: (i) strengthen coordination between the competent national authorities; (ii) develop monitoring and modelling tools; and (iii) improve reporting and planning at subnational level. Furthermore, the country needs to increase its institutional capacity to address the social and economic impacts of climate change, including by developing early warning systems, emergency response plans, and social-protection programmes (Annex 9).

Fostering the transition to a circular economy would have many benefits, including improved competitiveness. Bulgaria is progressing slowly in its circular economy transition, with a circular material use rate of 4.9% in 2023. This is far below the EU average and also poses significant risks to the country's long-term sustainability. Bulgaria's resource productivity is also below the EU average, with EUR 0.38 generated per kg of material consumed in 2023. To improve circularity, Bulgaria has adopted a strategy and action plan for the transition to a circular economy. This action plan includes measures to increase recycling, reduce waste, and promote sustainable patterns of production and consumption. However, the plan appears insufficient to: (i) address the country's below-EU-average circular material use rate; and (ii) address the significant investment gap to meet circular economy objectives. Bulgaria would need to increase its circular economy investment by an estimated EUR 126 million per year, with an additional EUR 21 million for action on waste management, to close the circular economy gap and unlock the full potential of a circular economy (Annex 7).

SKILLS, QUALITY JOBS AND SOCIAL FAIRNESS

Increasing skills by addressing challenges in the education system and strengthening adult learning

The availability of high skilled labour is scarce due to structural challenges in the education system. Participation in early childhood education is still among the lowest in the EU (21.1% vs an EU average of 39.2% in 2024 for children under 3 and 87.8% vs an EU average of 93.3% for children aged 3 to the age of compulsory education) and is especially low for disadvantaged children. Bulgaria also has one of the highest shares of 15-year-olds in the EU that do not have a minimum level of proficiency in mathematics (53.6% vs an EU average of 29.5%), reading (52.9% vs an EU average of 26.2%) and science (48% vs an EU average of 38.3%). The lack of basic skills is also a very significant barrier for later skills development. The share of top-performing students is also very low. These challenges are linked to school curricula, which are still heavily knowledge-based. There is insufficient focus on competences, and teaching quality is inadequate (see Annex 12). The challenges for improving teaching quality stem mainly from: (i) the inability to attract high-performing high-school graduates to the profession; (ii) the insufficient quality of initial teacher education; and (iii) the lack of continuous professional development based on a robust assessment of teachers' training needs. Socio-economic factors also severely impact educational outcomes leading to large inequalities that ultimately hinder productivity and competitiveness. In the poorest quartile, 62% of 15-year-olds underachieve simultaneously in all three subjects, compared with 16.5% among their advantaged peers. Social segregation increases learning disadvantages. For example, 64 % of Roma children aged 6-15 attend schools where all or most pupils are Roma.

Despite sustained efforts, low availability of professionals in science, technology, engineering and mathematics (STEM), and insufficient labour-market relevance of higher education exacerbate skills shortages and mismatches. In 2024, 40.5% of Bulgarians aged 25-34 have a tertiary education degree (against an EU average of 44.2%). As Bulgaria's population declines, the number of bachelor students is dropping (See Annex 12), exacerbating skills shortages. The participation in higher education of Bulgarians from poor backgrounds remains low. In addition, the matching of skills supply and demand is further hampered by the insufficient labour-market relevance of higher education. Only 23.8% of higher education students in Bulgaria in 2022 were pursuing a degree in STEM subjects (EU average: 27.1%), with fewer women enrolled than men. As part of reforms under the Recovery and Resilience Facility (RRF), the national map of higher education has been adopted to include an analysis of the offering – and needs – of the country's higher education institutions. This map should serve as a basis for allocating student places in public universities to more effectively reflect more efficiently the needs of the labour market. Under the RRF, STEM laboratories are being set up in schools nationwide to support the development of digital skills and learning in STEM subjects. However, there still remains scope to increase teaching capacity in digital and STEM areas.

The labour-market relevance of vocational education and training (VET) could be increased. Skills mismatches are exacerbated by the low alignment of VET with the needs of the jobs market. Furthermore, dual VET and work-based learning remains unpopular, with very limited involvement of companies. Although Bulgaria's VET Act has

been amended and the list of professions on VET has been updated under the recovery and resilience plan (RRP), it will only be possible to align VET more with the needs of the jobs market when programmes and learning content for each profession are updated and effectively applied in the education system. There is also a need to: (i) continue raising the awareness among students and employers of dual VET; and (ii) strengthen the involvement of employers and local actors in VET and dual VET.

Low and declining participation in adult learning hinders skills development and the adaptability of the workforce, thereby weakening Bulgaria's competitiveness. Adult participation in learning is not only very low but also on a decreasing trend. The rate in 2022 was 9.5% (vs an EU average of 39.5%) and was even lower among the poorly educated. This rate is significantly below the 2030 national target of 35.4%. This poses significant risks to the adaptability of the workforce to the digital and green transitions. Despite having slightly improved, the share of the adult population with at-least basic digital skills (35.5% in 2023) remains well below the EU average (55.5%) and the gap is even larger for young people. Only one third of Bulgarians report having the necessary skills to benefit from the green transition, an insufficient share of the population to meet the demands caused by the significant restructuring being undergone by the highly-energy intensive Bulgarian economy (see Annex 12).

Significant EU and state-funded measures are supporting adult up-skilling and re-skilling, but further action is needed to identify barriers and raise awareness. With support from the EU's technical support instrument, Bulgaria developed a proposal for an action plan for skills to implement the country's national skills strategy. The action plan for skills aims to: (i) identify the skills needed for future jobs; (ii) ensure that people with these skills find employment where they can use these skills; and (iii) strengthen the governance system for adult learning. The EU's European Social Fund+ and RRF are supporting key investments to provide training in digital skills. In addition, a pilot project for individual learning accounts is under development, with plans to run from 2025 to 2027, although implementation of this pilot project has been delayed (see Annex 12). Nevertheless, the persistently low levels of adult learning indicate the need to identify barriers to participation and adopt measures aimed to increase flexibility, in part through: (i) the promotion of more online training; (ii) reducing administrative burden; and (iii) raising awareness about the benefits of lifelong learning. Bulgaria could boost the resilience and adaptability of the workforce and strengthen its competitiveness by: (i) dedicating a higher share of measures to helping people find work or training; and (ii) incentivising employers and employees to increase workplace training.

A more inclusive labour market can offset demographic challenges

The strong performance of the labour market is under pressure from adverse demographic trends. Employment has been growing since 2021, staying above the EU average to reach 76.8% in 2024 (aged 20-64), and advancing towards the national employment target of 79% by 2030. Unemployment has also dropped to historically low levels and was at 4.2% in 2024. A tight labour market and government policies on minimum and public sector wages are the cause of recent wage growth, which has considerably outpaced inflation in recent years, except in 2022. Real wages grew by 6.4% in 2024 and are expected to increase by 8.4% in 2025. Nevertheless, labour costs remain among the lowest in the EU, reflecting low pre-accession wage levels and lower labour productivity overall. Negative long-term demographic trends, combined with net emigration of workers over a prolonged period of time, have reduced the working-age population in the country. Positive net migration to the country in recent years has been insufficient to alter the declining labour force. With a high proportion of Bulgarian students studying abroad, greater prospects of finding a good job outside the country, and

highly educated citizens leaving, the loss of skilled workers remains a challenge. Thus, attracting skilled workers and activating those that are of working age and are able to work is important to support economic growth potential. A positive step in this direction was taken with the amendment of the VET Act, which means that people without a formal education aged 16 or above can now be encouraged into vocational training.

Vulnerable groups such as persons with disabilities, the low-skilled, and Roma face greater barriers to employment. The situation is particularly concerning for persons with disabilities, as the disability employment gap (the gap between the employment rate of people with a disability and people without a disability) was one of the highest in the EU in 2024. And the share of young people (15-29) neither in employment nor in education or training (NEET), although declining, remained above the EU average. The gap in the employment rate between low-skilled workers and skilled workers was much higher than the EU average. Employment outcomes for Roma were much lower compared with the overall employment rate. Bulgaria took certain measures in 2024 such as the launch of eight new 'Activation' clubs funded under the European Social Fund+, which identify jobless people and find them work or training. Nevertheless, further sustained efforts will be necessary to increase the participation in the jobs market of these groups. This will support the sustainable and inclusive growth potential of the economy.

Regional disparities in activity, employment and unemployment persist. The north-west of the country reports particularly poor figures. There are also major regional differences in activity rates. And employment rates are also characterised by large urban-rural divides (the employment rate was 81.1% in cities, 77.9% in towns and suburbs and 68.5% in rural areas in 2024). Further efforts to support the most disadvantaged regions are necessary to tap the country's potential for economic growth and boost its overall competitiveness.

Poverty is decreasing while energy poverty and access to quality healthcare remain challenging

Energy poverty remains a structural challenge. Although the proportion of the population unable to keep their homes adequately warm has substantially decreased since 2015, it has remained higher than the EU average, particularly affecting those at risk of poverty. Arrears on utility bills have also been decreasing, but a significant proportion of households still faces difficulties in paying their bills on time. The housing-cost overburden rate, indicating the share of households that spend more than 40% of their income on housing-related costs, remains high. In 2008, Bulgaria introduced a targeted heating allowance for the vulnerable population to cover energy costs during the winter season, with about a third of a million households still benefiting from the scheme. Successive governments have also invested in renovating residential buildings to improve their energy efficiency. In addition, a legal definition of energy poverty was adopted in 2023. Nevertheless, there is room for improvement. For example, Bulgaria could still: (i) develop an information system/database to identify the affected population; (ii) put in place support mechanisms for the energy-vulnerable population; and (iii) commit to specific targets and timelines to reduce energy poverty. These actions will be instrumental in addressing the challenge, especially as Bulgaria is moving towards liberalising its electricity market.

Bulgaria has made progress in reducing overall poverty risks and inequalities, but significant challenges persist, particularly for vulnerable groups. The 2023 reform of the minimum income scheme (included in the RRP) aimed to increase the adequacy and coverage of income support. Preliminary data suggest the reform has led to an improvement in both coverage and adequacy. Despite improvements and progress towards the 2030 poverty-reduction target (see Annex 11), the country still has a high share of the population experiencing poverty

or social exclusion risks. This in particular affects children, older people, persons with disabilities, and Roma. The social protection system's limited capacity and uneven access to quality services make it hard for Bulgaria to achieve sustainable and inclusive growth. This has also contributed to one of the highest rates of income inequality in the EU. Increased social spending and a reform of the minimum income scheme under the RRP have improved the situation to some extent. Better targeting social benefits towards those most in need could provide sufficient support without jeopardising fiscal sustainability.

Challenges persist in the healthcare system that risk undermining social fairness, productivity and the development of human capital. Life expectancy in Bulgaria is among the lowest in the EU, with high rates of treatable mortality indicating shortcomings in healthcare effectiveness. Additionally, the country has one of the highest rates of mortality at working age. Bulgaria faces significant and growing shortages – and an uneven distribution – of healthcare professionals. The number of practising nurses per 1 000 people is one of the lowest in the EU (4.3 vs 7.6 in the EU on average), limiting further Bulgarians' access to quality healthcare. Despite healthcare spending rising constantly since 2019, it remains one of the lowest per capita in the EU. In addition, low investment levels hamper both patient access and the health system's capacity to contribute to innovation, as suggested by low levels of R&D in the healthcare system. RRF-funded reforms set out proposed measures to: (i) address the shortages of healthcare professionals; (ii) address the uneven distribution of healthcare professionals; and (iii) promote e-Health. However, to increase the effectiveness of the country's heavily hospital-centred system, it will also be important to: (i) improve primary, preventive, and outpatient care; and (ii) reduce out-of-pocket payments as a share of total healthcare costs.

These findings are consistent with the second-stage analysis in line with the EU's social convergence framework. The analysis points to challenges related to: (i) education; (ii) participation in early childhood education and care; (iii) basic skills levels; and (iv) the labour-market relevance of vocational education, training and higher education. However, the analysis does not point to overall social convergence challenges for Bulgaria, in part due to the measures implemented or planned ([19]).

([19]) European Commission, SWD(2025)95. The analysis relies on all the available quantitative and qualitative evidence and the policy response undertaken and planned.

KEY FINDINGS

To foster competitiveness, sustainability and social fairness, Bulgaria would benefit from:

- **Urgently accelerating the implementation of the recovery and resilience plan,** including the REPowerEU chapter; swiftly implementing **cohesion policy**, taking advantage of the opportunities under the mid-term review and making optimal use of EU instruments, including **InvestEU** and **STEP**, to improve competitiveness.

- **improving the quality of public investment management and public services** to attract productive private investment;

- **improving the public procurement process** by: (i) ensuring tendering procedures are carried out in an open, transparent and competitive way; and (ii) encouraging participation in these processes;

- **strengthening the effectiveness of regulatory bodies by ensuring their political independence and ensuring they have sufficient expertise and resources** to reduce uncertainty among businesses and boost investment;

- **concentrating research and innovation efforts and resources** on fewer institutions to: (i) increase the quality of output; (ii) strengthen academic-business links; and (iii) accelerate the commercialisation of research for greater relevance for businesses;

- **investing in clean-energy technologies as well as expanding, upgrading and digitalising the grid, and increasing energy storage capacity** to help increase the share of renewables – and increase their integration – into the energy mix;

- **moving forward with the liberalisation of the electricity market** and the removal of electricity price caps for businesses to further facilitate the entry of new renewable energy sources and flexible non-fossil-fuel energy assets;

- **increasing investment in clean transport infrastructure** to support the uptake of clean mobility and incentivise the modernisation of the passenger car fleet;

- **accelerating the green transition further** by taking concrete steps to phase out fossil fuel subsidies;

- **to support upward social convergence, increasing participation in higher education and strengthening adult learning** to ensure skilled workers for the labour market;

- **improving the quality of teaching** by attracting more talent to the profession and providing them with quality training and continuous professional development to increase students' basic skills;

- **increasing the participation of vulnerable groups in the jobs market,** in particular persons with disabilities and Roma, by strengthening the effectiveness of policies to help people find work or training and thus reduce the risk of poverty and social exclusion;

- **reducing regional disparities by** providing better education, administrative and social services and better access to quality healthcare in lower-income regions.

ANNEXES

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ANNEX 1: FISCAL SURVEILLANCE AND DEBT SUSTAINABILITY

This Annex contains a series of tables relevant for the assessment of the fiscal situation in Bulgaria, including how Bulgaria is responding to Council recommendations issued under the reformed Economic Governance Framework.

The reformed framework, which entered into force on 30 April 2024 ([20]), aims to strengthen debt sustainability and promote sustainable and inclusive growth through growth-enhancing reforms and priority investments. The medium-term fiscal-structural plans (hereinafter, MTPs or plans) constitute the cornerstone of the framework, setting the budgetary commitment of Member States over the medium term. The latter is defined in terms of net expenditure growth, which is the single operational indicator for fiscal surveillance.

Bulgaria submitted its plan on 27 February 2025. The plan covers the period until 2028, presenting a fiscal adjustment over four years. The Commission has assessed the MTP of Bulgaria and on 12 May 2025 recommended to the Council to adopt a recommendation setting the net expenditure growth ceilings contained in the plan ([21]).

The assessment of the fiscal situation of Bulgaria considers the Commission Recommendation for a Council Recommendation endorsing the Bulgaria's plan and it is carried out on the basis of outturn data from Eurostat, the Commission Spring 2025 Forecast and taking into account the Annual Progress Report (APR) that Bulgaria submitted on 2 May 2025. Furthermore, given Bulgaria's request to activate the National Escape Clause ([22]) following the Commission Communication of 19 March 2025([23]), the assessment also considers, as appropriate, the projected increase in defence expenditure based on the Commission Spring 2025 Forecast.

The Annex is organised as follows. First, developments in **government deficit and debt** are presented based on the figures reported in Table A1.1. Then, the assessment of the **fiscal situation of Bulgaria** follows, considering the **Commission's proposal for a Council Recommendation endorsing the plan**, based on the relevant figures presented in Tables A1.2 to A1.8, including data on defence expenditure.

The Annex also provides information on the **cost of ageing** and the **national fiscal framework**. Fiscal sustainability risks are discussed in the Debt Sustainability Monitor 2024 ([24]).

Developments in government deficit and debt

Bulgaria's government deficit amounted to 3.0% of GDP in 2024. Based on the Commission's Spring 2025 Forecast, it is projected to decrease to 2.8% in 2025. The government debt-to-GDP ratio amounted to 24.1% at the end of 2024 and, according to the Commission, it is projected to increase to 25.1% end-

([20]) Regulation (EU) 2024/1263 of the European Parliament and of the Council (EU) on the effective coordination of economic policies and on multilateral budgetary surveillance, together with the amended Regulation (EC) No 1467/97 on the implementation of the excessive deficit procedure, and the amended Council Directive 2011/85/EU on the budgetary frameworks of Member States are the core elements of the reformed EU economic governance framework.

([21]) COM(2025) 238 of 12.05.2025

([22]) On 2 May 2025, Bulgaria requested to the Commission and to the Council the activation of the National Escape Clause. On this basis, the Commission adopted a Recommendation for a Council Recommendation allowing Bulgaria to deviate from, and exceed, the net expenditure path set by the Council, COM(2025)601.

([23]) Communication from the Commission accommodating increased defence expenditure within the Stability and Growth Pact of 19 March 2025, C(2025) 2000 final.

([24]) European Commission (2025) 'Debt Sustainability Monitor 2024,' *European Economy-Institutional Papers* 306.

2025. The general government deficit is set to remain just under 3% of GDP going forward, whereas the general government debt-to-GDP ratio is expected to increase by 2026, driven by a stable primary deficit above 2% and sustained disinflation paired with increasing interest rates.

Table A1.1: **General government balance and debt**

	Variables		2024	2025		2026	
			Outturn	APR	COM	APR	COM
1	General government balance	% GDP	-3.0	-2.9	-2.8	n.a.	-2.8
2	General government gross debt	% GDP	24.1	28.9	25.1	n.a.	27.1

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR)

Developments in net expenditure

The net expenditure ([25]) growth of Bulgaria in 2025 is forecast by the Commission ([26]) to be above the recommended maximum, corresponding to a deviation of 1.1% of GDP. The increase in expenditure is mainly driven by a projected growth in defence investment in 2025 and by public wages expected to continue rising, in line with recent trends, especially in the area of defence. The net expenditure growth in the Commission's forecast is higher than the expected net expenditure growth presented by Bulgaria in its Annual Progress Report. The difference is mostly due to the fact that the Commission has recorded some expenditure as one-off for 2024, and thus a lower net nationally financed primary expenditure in the same year, which has then lowered the basis for the net expenditure growth calculation for 2025. Also, the Annual Progress Report includes higher EU funded expenditure and a greater impact of discretionary revenue measures in 2025, albeit against a higher expected total expenditure, when compared to the Commission forecast.

Table A1.2: **Net expenditure growth**

	Annual			Cumulative*		
	MTP	APR	COM	MTP	APR	COM
	Growth rates					
2024	n.a.	12.3%	10.4%	n.a.	n.a.	n.a.
2025	6.2%	8.6%	9.2%	6.2%	8.6%	9.2%
2026	4.9%	n.a.	1.7%	11.4%	n.a.	11.1%

* The cumulative growth rates are calculated by reference to the base year of 2024.
Source: Medium-term fiscal structural plan of Bulgaria (MTP), Annual Progress Report (APR) and Commission's calculation based on Commission Spring 2025 Forecast (COM).

The assessment of the net expenditure growth and in particular the comparison with the recommended net expenditure path considers that Bulgaria has requested the activation of the national escape clause to facilitate transitioning to a higher level of defence expenditure ([27]). General government defence expenditure in Bulgaria amounted to 1.6% of GDP in 2021, 1.6% of GDP in 2022 and 1.5% of GDP in

([25]) Net expenditure is defined in Article 2(2) of Regulation (EU) 2024/1263 as government expenditure net of (i) interest expenditure, (ii) discretionary revenue measures, (iii) expenditure on programmes of the Union fully matched by revenue from Union funds, (iv) national expenditure on co-financing of programmes funded by the Union, (v) cyclical elements of unemployment benefit expenditure, and (vi) one-off and other temporary measures.

([26]) Commission Spring 2025 Forecast, *European Economy-Institutional paper 318*, May 2025.

([27]) On 4 June 2025 the Commission adopted a Recommendation for a Council Recommendation to deviate from, and exceed, the recommended net expenditure path [BG - COM(2025)601].

2023 ([28]). According to the Commission Spring 2025 Forecast, expenditure on defence is projected at 1.4% of GDP in 2024 and 2.6% of GDP in 2025. Based on current projections for defence spending, the deviation that is projected for Bulgaria is within the flexibility provided by the national escape clause.

Table A1.3: **Net expenditure (outturn and forecasts), annual and cumulated deviations vis-à-vis the medium-term plan**

	Variables		2023	2024	2025	2026
			Outturn	Outturn	COM	COM
1	Total expenditure	bn NAC	71.8	80.7	90.7	94.1
2	Interest expenditure	bn NAC	0.9	1.1	1.4	1.5
3	Cyclical unemployment expenditure	bn NAC	0.0	0.0	0.0	0.0
4	Expenditure funded by transfers from the EU	bn NAC	1.6	1.5	3.1	4.6
5	National co-financing of EU programmes	bn NAC	0.4	0.4	0.5	0.4
6	One-off expenditure (levels, excl. EU funded)	bn NAC	0.0	1.1	0.0	0.0
7=1-2-3-4-5-6	**Net nationally financed primary expenditure (before discretionary revenue measures, DRM)**	**bn NAC**	**68.9**	**76.7**	**85.7**	**87.5**
8	Change in net nationally financed primary expenditure (before DRM)	bn NAC		7.8	9.0	1.8
9	DRM (excl. one-off revenue, incremental impact)	bn NAC		0.6	1.9	0.4
10=8-9	**Change in net nationally financed primary expenditure (after DRM)**	**bn NAC**		**7.2**	**7.1**	**1.4**
11	Outturn / forecast net expenditure growth	% change		10.42%	9.2%	1.7%
12	Net expenditure growth as reported in the medium-term plan *	% change		n.a.	6.2%	4.9%
13=(11-12) x 7	Annual deviation	bn NAC		n.a.	2.3	-2.8
14 (cumulated from 13)	Cumulated deviation	bn NAC		n.a.	2.3	-0.4
15=13/17	**Annual balance**	**% GDP**		**n.a.**	**1.1**	**-1.2**
16=14/17	**Cumulated balance**	**% GDP**		**n.a.**	**1.1**	**-0.2**
17	p.m. Nominal GDP	bn NAC	185.2	202.9	218.1	228.3

* The medium-term plan was positively assessed by the Commission and is now pending the endorsement by the Council.
Source: Commission Spring 2025 Forecast and Commission's calculation

Table A1.4: **Defence expenditure and the national escape clause**

			2021	2022	2023	2024	2025	2026
1	Total defence expenditure	% GDP	1.6	1.6	1.5	1.4	2.6	1.7
2	*of which: gross fixed capital formation*	% GDP	0.6	0.5	0.4	0.3	1.1	0.1
3	Flexibility from increases in defence expenditure	% GDP					1.2	0.3
4	**Cumulated balance after flexibility**	**% GDP**					**-0.2**	**-0.5**

Source: Eurostat (COFOG), Commission Spring 2025 Forecast and Commission's calculation

([28]) Eurostat, government expenditure by classification of functions of government (COFOG).

Table A1.5: **Macroeconomic developments and forecasts**

	Variables		2024	2025		2026	
			Outturn	APR	COM	APR	COM
1=7+8+9	**Real GDP**	**% change**	**2.8**	**3.0**	**2.0**	**n.a.**	**2.1**
2	Private consumption	% change	4.2	3.9	3.5	n.a.	2.5
3	Government consumption expenditure	% change	4.6	2.9	0.3	n.a.	1.9
4	Gross fixed capital formation	% change	-1.1	12.8	2.0	n.a.	3.5
5	Exports of goods and services	% change	-0.8	2.6	1.6	n.a.	2.1
6	Imports of goods and services	% change	1.3	6.7	2.4	n.a.	2.8
	Contributions to real GDP growth						
7	- Final domestic demand	pps	3.1	5.1	2.4	n.a.	2.5
8	- Change in inventories	pps	1.0	0.0	0.0	n.a.	0.0
9	- Net exports	pps	-1.3	-2.1	-0.4	n.a.	-0.3
10	Output gap	% pot GDP	0.7	0.2	-0.1	n.a.	-0.5
11	Employment	% change	1.1	0.6	0.4	n.a.	0.3
12	Unemployment rate	%	4.2	4.1	4.0	n.a.	3.8
13	Labour productivity	% change	1.7	2.4	1.7	n.a.	1.8
14	HICP	% change	2.6	3.6	3.6	n.a.	1.8
15	GDP deflator	% change	6.5	4.5	5.4	n.a.	2.5
16	Compensation of employees per head	% change	10.4	8.7	9.6	n.a.	6.1
17	Net lending/borrowing vis-à-vis the rest of the world	% GDP	-1.7	n.a.	-1.4	n.a.	-0.9

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR)

Table A1.6: **General government budgetary position**

	Variables (% GDP)	2024	2025		2026	
		Outturn	APR	COM	APR	COM
1=2+3+4+5	**Revenue**	**36.7**	**40.5**	**38.8**	**n.a.**	**38.4**
	of which:					
2	- Taxes on production and imports	14.8	16.6	15.9	n.a.	15.8
3	- Current taxes on income, wealth, etc.	6.6	6.9	6.6	n.a.	6.2
4	- Social contributions	9.0	9.6	9.2	n.a.	9.3
5	- Other (residual)	6.3	7.4	7.0	n.a.	7.1
8=9+16	**Expenditure**	**39.8**	**43.3**	**41.6**	**n.a.**	**41.2**
	of which:					
9	- Primary expenditure	39.2	42.5	40.9	n.a.	40.5
	of which:					
10	- Compensation of employees	11.4	12.1	12.7	n.a.	12.6
11	- Intermediate consumption	4.5	4.8	4.2	n.a.	4.0
12	- Social payments	15.7	17.1	16.0	n.a.	16.1
13	- Subsidies	2.2	1.8	1.8	n.a.	1.7
14	- Gross fixed capital formation	3.0	4.9	3.6	n.a.	3.3
15	- Other	2.5	1.8	2.6	n.a.	2.8
16	- Interest expenditure	0.5	0.8	0.6	n.a.	0.7
18=1-8	**General government balance**	**-3.0**	**-2.9**	**-2.8**	**n.a.**	**-2.8**
19=1-9	**Primary balance**	**-2.5**	**-2.0**	**-2.2**	**n.a.**	**-2.1**
20	Cyclically adjusted balance	-3.2	n.a.	-2.8	n.a.	-2.7
21	One-offs	-0.5	0.0	0.4	n.a.	0.0
22=20-21	**Structural balance**	**-2.7**	**-2.9**	**-3.2**	**n.a.**	**-2.7**
23=22+16	Structural primary balance	-2.2	-2.1	-2.5	n.a.	-2.0

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR)

Table A1.7: **Debt developments**

	Variables	2024	2025		2026	
		Outturn	APR	COM	APR	COM
1	**Gross debt ratio* (% of GDP)**	**24.1**	**28.9**	**25.1**	**n.a.**	**27.1**
2=3+4+8	Change in the ratio (pps. of GDP)	1.2	4.8	1.0	n.a.	2.0
	Contributions**					
3	**Primary balance**	**2.5**	**2.0**	**2.2**	**n.a.**	**2.1**
4=5+6+7	**'Snow-ball' effect**	**-1.5**	**-0.9**	**-1.0**	**n.a.**	**-0.4**
	of which:					
5	- Interest expenditure	0.5	0.8	0.6	n.a.	0.7
6	- Real growth effect	-0.6	-0.7	-0.5	n.a.	-0.5
7	- Inflation effect	-1.4	-1.0	-1.2	n.a.	-0.6
8	**'Stock-flow' adjustment**	**0.1**	**3.7**	**-0.1**	**n.a.**	**0.4**

* End of period.

** The 'snow-ball' effect captures the impact of interest expenditure on accumulated general government debt, as well as the impact of real GDP growth and inflation on the general government debt-to-GDP ratio (through the denominator). The stock-flow adjustment includes differences in cash and accrual accounting (including leads and lags in Recovery and Resilience Facility grant disbursements), accumulation of financial assets, and valuation and other residual effects.

Source: Commission Spring 2025 Forecast and Commission's calculation (COM), Annual Progress Report (APR)

Table A1.8: **RRF – Grants**

	Revenue from RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
1	RRF grants as included in the revenue projections	n.a.	n.a.	0.0	0.0	0.3	0.9	n.a.
2	Cash disbursements of RRF grants from EU	n.a.	n.a.	1.6	0.0	0.0	1.8	n.a.

	Expenditure financed by RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
3	Total current expenditure	n.a.	n.a.	0.0	0.0	0.1	0.1	n.a.
4	Gross fixed capital formation	n.a.	n.a.	0.0	0.0	0.2	0.8	n.a.
5	Capital transfers	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.
6=4+5	Total capital expenditure	n.a.	n.a.	0.0	0.0	0.2	0.8	n.a.

	Other costs financed by RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
7	Reduction in tax revenue	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.
8	Other costs with impact on revenue	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.
9	Financial transactions	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.

Source: Annual Progress Report

Cost of ageing

Total age-related spending in Bulgaria is projected to decline from about 19.5% of GDP in 2024 to about 18.5% in 2040, rising again thereafter to around 19% but remaining considerably below the EU average (see Table A1.9**).** The overall dynamic is mainly driven by the projected decline in pension spending over the next decades, which more than offsets the limited increase expected for healthcare and long-term care expenditure. Pension spending would fall by 1.2 pps of GDP between 2024 and 2040, the largest projected decline among all EU Member States, and broadly stabilise thereafter.

Public healthcare expenditure is projected at 4.5% of GDP in 2024 (well below the EU average of 6.6%) and is expected to increase by 0.3 pps by 2040 but then reverse and decrease by 0.1

pp by 2070. While the overall increase is driven by an ageing population, it is constrained in the long-term by a significant decline in the overall population ([29]).

Public expenditure on long-term care is projected at 0.5% of GDP in 2024 (well below the EU average of 1.7%) and is expected to increase by 0.1 pp of GDP by 2040 and by a further 0.1 pp of GDP by 2070. The projected increase is due to an ageing population but is relatively low due to underdeveloped long-term care services ([30]).

Table A1.9: **Projected change in age-related expenditure in 2024-2040 and 2024-2070**

	age-related expenditure 2024 (% GDP)	change in 2024-2040 (pps GDP) due to: pensions	healthcare	long-term care	education	total	age-related expenditure 2040 (%GDP)	
BG	19.4	*-1.2*	*0.3*	*0.1*	*-0.2*	***-1.0***	18.4	**BG**
EU	24.3	*0.5*	*0.3*	*0.4*	*-0.3*	***0.9***	25.2	EU

	age-related expenditure 2024 (% GDP)	change in 2024-2070 (pps GDP) due to: pensions	healthcare	long-term care	education	total	age-related expenditure 2070 (%GDP)	
BG	19.4	*-1.0*	*0.2*	*0.2*	*0.0*	***-0.6***	18.8	**BG**
EU	24.3	*0.2*	*0.6*	*0.8*	*-0.4*	***1.3***	25.6	EU

Source: 2024 Ageing Report (EC/EPC).

National fiscal framework

There is potential to enhance the capacity and independence of the Bulgarian independent fiscal institution (IFI), the Fiscal Council of Bulgaria (FCB). Currently, it has a narrow mandate, monitoring compliance with fiscal rules and assessing the macroeconomic and budgetary forecasts and is supported by a thinly staffed Secretariat of only two full-time employees. The six-year mandates of Members are not staggered, increasing the need for transparency in the appointment process. The mandate of the previous Board expired in November 2021, and a new board was only appointed in March 2025. Despite a legal requirement to provide the FCB with all necessary information, improvements in practice are needed regarding both the content and timing of delivery. The policy dialogue with the government and the parliament could be further developed.

The planning and budgeting of public investments is subject to ongoing reform in Bulgaria, while room for improvement remains. The 2024 State Budget Law approved an investment program for nationally financed projects, centralising capital expenditures into a dedicated fund to improve planning, transparency, and efficiency. The medium-term budgeting framework includes capital spending ceilings for the budget year and the next two years. Yet, these are indicative and subject to yearly amendments. Project assessment and selection based on objective value-for money indicators are not in place yet and neither are external quality assurances that could help reduce underrepresentation of risks and costs ([31]). However, reforms are underway to introduce standardised appraisal methods ([32]). After sufficient time since a project started delivering, a comprehensive ex-post review can be carried out to assess strategic performance and they require careful planning and are resource intensive. In Bulgaria, ex post reviews are neither systematically required nor frequently conducted.

([29]) Key performance characteristics, recent reforms and investments of the Bulgarian healthcare system are discussed in Annex 14 'Health and health systems'.

([30]) The quality and adequacy of the Bulgarian long-term care system are covered in Annex 11 'Social policies'.

([31]) OECD (2023), Public Investment in Bulgaria: Planning and Delivering Infrastructure, OECD Public Governance Reviews, OECD Publishing, Paris, https://doi.org/10.1787/b73ef3b4-en.

([32]) For example, reforms supported by the Technical Support Instrument of the European Commission.

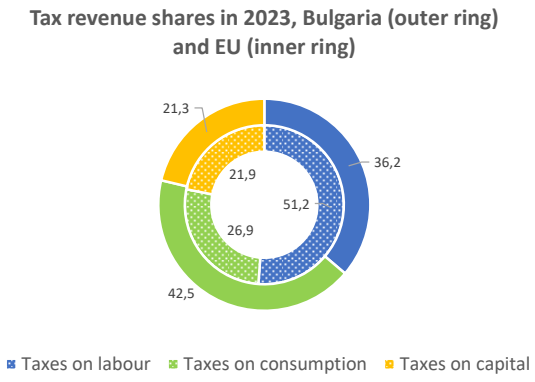
Table A1.10:**Fiscal Governance Database Indicators**

2023	Bulgaria	EU Average
Country Fiscal Rule Strength Index (C-FRSI)	22.26	14.52
Medium-Term Budgetary Framework Index (MTBFI)	0.73	0.73

The Country Fiscal Rule Strength Index (C-FRSI) shows the strength of national fiscal rules aggregated at the country level based on i) the legal base, ii) how binding the rule is, iii) monitoring bodies, iv) correction mechanisms, and v) resilience to shocks. The Medium-Term Budgetary Framework Index (MTBFI) shows the strength of the national MTBF based on i) coverage of the targets/ceilings included in the national medium-term fiscal plans; ii) connectedness between these targets/ceilings and the annual budgets; iii) involvement of the national parliament in the preparation of the plans; iv) involvement of independent fiscal institutions in their preparation; and v) their level of detail. A higher score is associated with higher rule and MTBF strength.
Source: Fiscal Governance Database

This annex provides an indicator-based overview of Bulgaria's tax system. It includes information on: (i) the tax mix; (ii) competitiveness and fairness aspects of the tax system; and (iii) tax collection and compliance.

Graph A2.1: **Tax revenue shares in 2023**



Source: Taxation Trends Data, DG TAXUD

Bulgaria's tax revenue is relatively low in relation to its GDP, with the largest contribution coming from consumption taxes. The low-tax environment with respect to direct taxes benefits economic activity because it encourages investment and employment. Table A2.1 shows that Bulgaria's tax revenue as a percentage of GDP was considerably below the EU average in 2023 (29.9% vs an EU average of 39%), having fallen by 1.2 pps compared with 2022. The share of consumption taxes as a proportion of total tax revenue was significantly above the EU average (42.5% compared with an EU average of 26.9%). However, revenue from labour taxes was significantly below the EU average, both as a share of GDP and as a share of total taxation (see Graph A2.1). Revenue from property taxes was also relatively low as a percentage of both GDP and total tax revenue, as were revenues from recurrent property taxes, which are considered a particularly growth-friendly type of taxation. There is therefore room to increase recurrent property taxes to help address potential fiscal sustainability challenges in Bulgaria.

Bulgaria's environmental taxes are higher than the EU average but could still be expanded. These taxes accounted for 15.3% of total tax revenues in 2023, which was one the highest shares in the EU-27. This was mostly due to energy taxes (for more on policies related to environmental sustainability, see Annex 7). Nevertheless, taxes on pollution and resources taxes account for only 0.1% of Bulgaria's total tax revenue, indicating that there is potential to strengthen the application of the 'polluter pays' principle. Bulgaria has implemented one of the six possible types of pollution and resources taxes (i.e. taxes on NOx emissions). However, it has not yet introduced the other five types (i.e. taxes on: incineration and landfilling; waste discharge into water; fertilisers; pesticides; and plastic products).

Bulgaria's levels of property and corporate taxation are below the EU average. In 2023, the average forward-looking effective tax rate on corporate income in Bulgaria was 9.4%, which is considerably below the EU average (18.9%), but not very far from the statutory tax rate (10%). Moreover, companies can carry forward losses for up to five consecutive years. These two features of the tax system (low effective rates and the ability to carry forward losses for five years), combined with the significant tax incentives provided for investments in poorly developed areas may benefit economic growth. At the same time, other factors are working in the opposite direction and potentially holding back growth. These other factors include the lack of tax incentives for R&D, the debt-equity bias and the treatment of stock options on a case-by-case basis (creating considerable uncertainty over the use of employee stock options). Moreover, Bulgarian entities in the scope of the OECD-proposed 'global minimum tax' have been subjected to a minimum effective tax rate of 15% as of 1 January 2024, while public country-by-country reporting had to be adopted from 1 January 2025.

Bulgaria has a flat-rate tax system, which is not progressive (unlike most tax systems in the EU). Bulgaria has a flat-rate tax system with one of the lowest personal income tax rates in the EU (only 10%). Unlike some Member States with a flat income tax rate, there is no basic tax allowance, which further limits the progressivity of the tax system. The tax wedge is therefore relatively high for low-income earners and relatively low for high-income earners (Graph A2.2) ([33]). This may reduce employers' demand for low-skilled workers, which may partly explain the low employment rate of low-educated people

([33]) The tax wedge is defined as the sum of personal income taxes and employee and employer social-security contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social-security contributions paid by the employer).

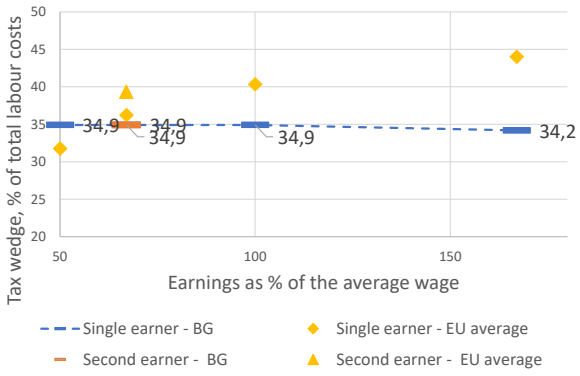
Table A2.1: **Taxation indicators**

		Bulgaria					EU-27				
		2010	2021	2022	2023	2024	2010	2021	2022	2023	2024
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	25,4	30,7	31,1	29,9		37,8	40,2	39,7	39,0	
By tax base	Taxes on labour (% of GDP)	8,4	11,1	10,4	10,8		19,8	20,5	20,1	20,0	
	of which, social security contributions (SSC, % of GDP)	6,6	8,8	8,2	8,5		12,9	13,0	12,7	12,7	
	Taxes on consumption (% of GDP)	13,4	14,0	12,9	12,7		10,9	11,2	10,9	10,5	
	of which, value added taxes (VAT, % of GDP)	8,3	9,3	9,0	8,8		6,8	7,3	7,4	7,1	
	Taxes on capital (% of GDP)	3,6	5,6	7,8	6,4		7,1	8,5	8,7	8,5	
Some tax types	Personal income taxes (PIT, % of GDP)	2,8	3,4	3,1	3,3		8,6	9,6	9,4	9,3	
	Corporate income taxes (CIT, % of GDP)	1,8	2,8	2,9	2,9		2,2	2,9	3,2	3,2	
	Total property taxes (% of GDP)	0,5	0,8	0,7	0,6		1,9	2,2	2,1	1,9	
	Recurrent taxes on immovable property (% of GDP)	0,3	0,3	0,2	0,2		1,1	1,1	1,0	0,9	
	Environmental taxes (% of GDP)	2,7	2,8	4,8	3,4		2,5	2,4	2,1	2,0	
	Effective carbon rate in EUR per tonne of CO_2 equivalents	NA	NA	NA	65,0		NA	86,0	NA	84,8	
Progressivity & fairness	Tax wedge at 50% of average wage (single person) (*)	32,5	34,9	34,9	34,9	34,9	33,9	31,8	31,5	31,5	31,8
	Tax wedge at 100% of average wage (single person) (*)	32,5	34,9	34,9	34,9	34,9	40,9	39,9	39,9	40,2	40,3
	Corporate income tax - effective average tax rates (1) (*)	9,2	9,4	9,4	9,4		21,3	19,3	19,1	18,9	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	3,6	4,7	4,4	4,2		8,6	8,2	7,9	7,7	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)		81,0	67,7				35,5	32,6		
	VAT gap (% of VAT total tax liability, VTTL) (**)		3,7	7,7				6,6	7,0		

(1) Forward-looking effective tax rate (KPMG).
(2) A higher value indicates a stronger redistributive impact of taxation.
(*) EU-27 simple average.
(**) For more details on the VAT gap, see European Commission, Directorate-General for Taxation and Customs Union, VAT gap in the EU - 2024 report, https://data.europa.eu/doi/10.2778/2476549
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, OECD

(48.5% of whom are employed in Bulgaria vs an EU average of 58.7%). The lack of progressivity in the tax system also means that the tax-and-benefit system is less able to redistribute income. The tax-and-benefit system reduced the Gini coefficient (a measure of income inequality) in 2023 by only 4.2 points, which was well below the EU average of 7.7 points (see Table A2.1). Simulations using the EUROMOD microsimulation model based on 2017 data and policies suggest that an annual basic tax allowance of EUR 2 800 for low incomes financed by an increase in the statutory tax rate could reduce relative poverty by around 0.6 pps and inequality by 0.8 Gini points ([34]).

Graph A2.2: **Tax wedge for single and second earners, % of total labour costs, 2024**



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

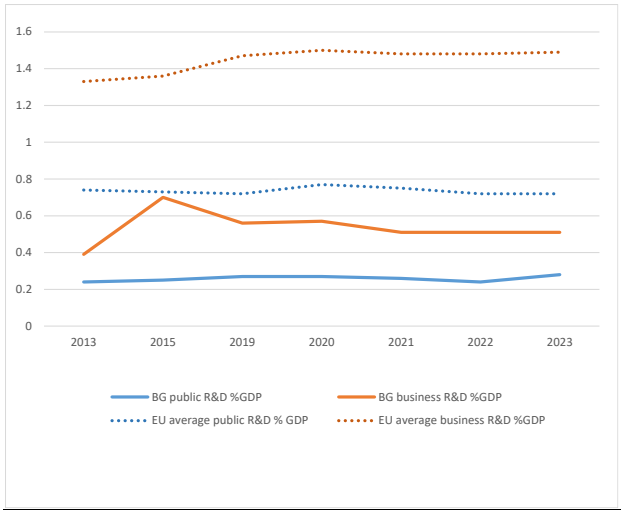
Bulgaria continues to face some challenges in the efficiency of tax administration. The 2022 VAT compliance gap (the gap between revenues collected and the theoretical tax liability) was close to the EU-27 average, at 7.7% compared with 7.0% for the EU. Overall, there is still considerable room to improve the efficiency of the tax administration. Outstanding tax arrears decreased by 16.4 pps to 67% of total revenue collected between 2021 and 2022, but this was

([34]) Barrios, S. et al., 2020, 'Progressive Tax Reforms in Flat Tax Countries', Eastern European Economics, Vol. 58/2, pp. 83-107.

still among the highest in the EU (the EU average is 32.6%). Bulgaria is also lagging behind other Member States in the degree to which tax returns are pre-filled, and this can be considered as an indicator of the compliance costs that Bulgarian taxpayers face. The electronic filing rates for personal-income-tax returns have improved in recent years but are still lower than in other Member States. Bulgaria's recovery and resilience plan does not include tax reforms, despite 2019 and 2020 country-specific recommendations related to taxation. However, Bulgaria has put in place some measures to prevent money laundering by people providing professional company services (including accountants and tax advisers) and others providing incentives for electric mobility.

Despite some progress in recent years, Bulgaria remains an 'emerging innovator' ([35]), **mainly due to significant underinvestment in R&D and weak science-business ties.** According to the 2024 European Innovation Scoreboard ([36]), the country's innovation performance has increased over time, but at a slower pace than that of the EU. Sustaining this positive trend will be crucial to closing the growing gap with the EU average. While total R&D intensity ([37]) increased from 0.43% in 2007 to 0.79% in 2023, both public and private R&D investment remains critically low (among the lowest in the EU) and is still far from Bulgaria's goal of spending 2% of its GDP on R&D by 2025 ([38]). In addition to a fragmented research system and weak science-business ties, this underinvestment weighs heavily on Bulgaria's innovation potential. Strengthening the Bulgarian public science base and its linkages with the business ecosystem, while boosting private R&D efforts through well-calibrated public support tools, will be essential to improving Bulgaria's innovative capacity and competitiveness.

Graph A3.1: **R&D investment as % of GDP, 2013-2023**



Source: Eurostat

Science and innovative ecosystems

Bulgaria's scientific and technological potential continues to remain largely untapped due to underfunding and a highly fragmented public research landscape. Over the last decade, Bulgaria has been unable to increase its public R&D intensity, which remains well below the EU average (0.28% of GDP in 2023 vs 0.72% in the EU). Low public R&D spending is affecting the quality of the public science base, which is among the lowest in the EU ([39]). Although performance-based funding progressed in the past years it still accounts for only a very small share of the overall institutional funding of public research organisations, providing limited financial incentives for scientific excellence. The consequences of low levels of public R&D expenditure in Bulgaria are further exacerbated by the fact that the limited public R&D budget is distributed over a large number of higher education institutions and research organisations. Through the Horizon Policy Support Facility (PSF), the Bulgarian government receives support to

([35]) The European Innovation Scoreboard categorises EU Member States into four performance groups based on their scores: Innovation Leaders, Strong Innovators, Moderate Innovators, and Emerging Innovators.

([36]) 2024 European Innovation Scoreboard, country profile: Bulgaria, https://ec.europa.eu/assets/rtd/eis/2024/ec_rtd_eis-country-profile-bg.pdf. The scoreboard provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems (also compared to the EU average).

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

([38]) As set out in the national strategy for the development of scientific research 2017-2030.

([39]) As measured in scientific publications of the country within the top 10% most cited scientific publications worldwide as % of total scientific publications of the country: 3.3 (2021) in Bulgaria vs 9.6 (2023) in the EU.

address its fragmented research landscape. The ongoing PSF review is assessing the Bulgarian scientific ecosystem to identify the policy levers to be used and provide concrete recommendations for consolidating research-performing institutions. A proper and timely implementation of these recommendations, which is expected in June 2025, will be key to increasing the efficiency and excellence of Bulgaria's public research system, which provides the foundation for strong innovation performance.

Ineffective coordination between ministries and implementing agencies hinders effective policy development and the proper implementation of reforms and research and innovation (R&I) strategies. The new Research and Innovation Act, adopted in May 2024 ([40]) as part of the recovery and resilience plan, regulates the role and responsibilities of the institutions involved in the policy cycle. One of its key elements is the establishment of an Innovation and Science Research Council to advise the Ministry of Education and Science and the Ministry of Innovation and Growth on matters related to research and innovation. One third of the Council's members represent businesses. The Council, together with the Research and Innovation Act, supports the creation of a research and innovation ecosystem by ensuring close links between academia and business sectors, including the promotion of technology transfers ([41]).

Business innovation

Low and stagnant private R&D investment, resulting in modest innovation output, hinders Bulgaria's economic development. Between 2021 and 2023, business R&D intensity remained stagnant at 0.51% of GDP, well below the EU average of 1.49%. In addition, public support to business R&D remains marginal and insufficient to stimulate private R&D efforts. Public support to business R&D stands at 0.011% of GDP, well below the EU average of 0.204%. Many businesses in Bulgaria are low-tech, which limits their ability to innovate and adopt new technologies ([42]). This limited innovation activity of businesses also results in weak innovation output, as measured for example by patents ([43]).

Limited academia-business links continue to be a serious obstacle to the commercialisation of research results. Science-business cooperation, as reflected in the share of public-private scientific co-publications, remains at the low end of the scale, 5.6% compared to the EU average of 7.7%. Public R&D expenditure financed by businesses is also well below the EU average. This suggests that Bulgarian businesses have little incentive to work with public research institutions, which then limits the innovation output and commercialisation of research. The technology transfer ecosystem ([44]) remains underdeveloped: not all research-performing institutions have a technology transfer office, and if they do, these offices generally lack sufficient resources and administrative capacity ([45]). Furthermore, while entrepreneurship education is embedded in the school curriculum, it is limited by its scale and low instruction time.

The uptake of digital technologies is significantly below the EU average, despite recent progress on the uptake of cloud services by small and medium-sized enterprises (SMEs). In 2024, 49.9% of the country's SMEs had at least a basic level of digital intensity, far below the EU average of 72.91% and last among EU Member States. Against an EU average of 13.48%, only 6.47% of the country's firms had adopted AI in 2024. Cloud adoption (14.22%) was extremely low in 2023 compared to the EU average (38.86%), and only 21.86% of

([40]) https://www.mon.bg/regulation/zakon-za-nasarchavane-na-nauchnite-izsledvaniya-i-inovacziite/.

([41]) https://op.europa.eu/en/publication-detail/-/publication/80ec9c96-be86-11ef-91ed-01aa75ed71a1/language-en.

([42]) Innovation.bg 2024, ARC Fund: https://arcfund.net/en/category-publications/inovatsii-bg-2024/.

([43]) Measured as patent applications filed under the Patent Cooperation Treaty per billion of GDP (in purchasing power standards): 0.3 in Bulgaria (2022) vs 2.8 (2024) in the EU.

([44]) Strategic evaluation of the technology transfer and IPR protection systems of Bulgaria, Croatia and Romania and recommendations for their enhancement: https://publications.jrc.ec.europa.eu/repository/handle/JRC136807.

([45]) Bulgaria: Country Needs and STI Policy Mix Assessment, September 2020, World Bank.

firms used data analytics compared to 33.17% in the EU. To address this issue, the Bulgarian recovery and resilience plan includes an investment to support the deployment of digital technologies in SMEs and improve their readiness for the subsequent adoption of Industry 4.0 technologies. The cohesion policy investment would primarily focus on supporting SMEs in achieving higher levels of digitalisation and deploying Industry 4.0 technologies. Bulgaria has made progress in its contribution to the development of strategic technologies such as semiconductors. The country's quantum computing capabilities make it a forerunner in the EU for quantum communication technologies and cybersecurity. The country is home to the European High Performance Joint Undertaking ´Discoverer´, which is one of the eight supercomputers located across Europe and is fully operational.

Financing innovation

The availability of risk capital has improved over the years and supports the growth of Bulgaria's start-up ecosystem; however, it remains small compared with other countries worldwide. Venture capital investment has grown significantly (0.024% of GDP in 2023 vs 0.007% in 2019), but is still below the EU average of 0.078% and is concentrated in seed and start-up funding. The shares (% of total venture capital) are well above the EU average (24.6% vs 7.3% and 64.5% vs 44% respectively), showing that Bulgaria's start-up ecosystem is growing. Bulgaria has emerged as the entrepreneurial hub in south-east Europe with over EUR 1 billion of investments in the last five years (2019-2023) and the highest number of funded start-ups per capita in the region ([46]). Another source of finance for innovative companies comes from private equity, but the average annual investment, at 0.1% of GDP, is still below the EU average of 0.6%. Early-stage innovative firms in Bulgaria continue to face a persistent financing gap throughout their lifecycle, highlighting the need to further develop the private equity and venture capital markets in order to support the growth of the country's start-up ecosystem ([47]).

Innovative talent

Systemic loss of scientific capacities is hampering Bulgaria's competitiveness and transition towards a knowledge-based economy. Bulgaria's pool of available workers for R&I, as measured by the share of new graduates in science and engineering in the population, has been on a downward trend since 2010 and is well below the EU average ([48]). This is further exacerbated by one of the lowest, but recently growing ([49]), shares of people aged 25-34 who have successfully completed tertiary education (40.5% against the EU average of 44.2%), along with an ageing workforce ([50]) and lack of research staff due to low career prospects. This is reflected in the low number of researchers (full-time equivalents) employed by the public sector per thousand of the active population, which has remained among the lowest of all EU countries (2.8 in 2023 compared to an EU average of 4.2).

Entrepreneurship education is embedded in the school curriculum (grade 1–12); however, it is limited by its scale, low instruction times and the lack of specific national strategy. In higher education, the promotion of entrepreneurial education is not recognised ([51]) as a strategic goal, and the role of universities in providing entrepreneurship education is not clearly defined.

([46]) https://bvca.bg/wp-content/uploads/2024/02/Project-Venture-Startup-Ecosystem-Overview_date.pdf

([47]) See also Annex 5: Access to finance.

([48]) Measured as new graduates in science and engineering per thousand of the population aged 25-34: 10.2 in Bulgaria (2022) vs 17.6 (2024) in the EU.

([49]) Measured by share of population aged 25-34 who have successfully completed tertiary education (%): 35.8 (2023) to 40.5 (2024) in Bulgaria

([50]) https://www.nsi.bg/bg/content

([51]) Yordanova, D., (2021a). Nascent Technology Entrepreneurship among Bulgarian STEM Students, Administrative Sciences, vol:11, issue:4.

Table A3.1: **Key innovation indicators**

Bulgaria	2012	2017	2020	2021	2022	2023	2024	EU average (1)	USA
Headline indicator									
R&D intensity (gross domestic expenditure on R&D as % of GDP)	0.60	0.74	0.85	0.77	0.75	0.79	:	2.24	3.45
Science and innovative ecosystems									
Public expenditure on R&D as % of GDP	0.23	0.21	0.27	0.26	0.24	0.28	:	0.72	0.64
Scientific publications of the country within the top 10% most cited publications worldwide as % of total publications of the country	1.9	2.9	2.5	3.3	:	:	:	9.6	12.3
Researchers (FTE) employed by public sector (Gov+HEI) per thousand active population	2.8	2.6	2.8	2.7	2.8	2.8	:	4.2	:
International co-publications as % of total number of publications	45.2	48.3	37.9	37.4	37.9	36.3	:	55.9	39.3
R&D investment & researchers employed in businesses									
Business enterprise expenditure on R&D (BERD) as % of GDP	0.36	0.52	0.57	0.51	0.51	0.51	:	1.49	2.70
Business enterprise expenditure on R&D (BERD) performed by SMEs as % of GDP	0.32	0.27	0.25	0.22	0.24	:	:	0.4	0.3
Researchers employed by business per thousand active population	0.6	2	2.8	2.7	3.1	2.7	:	5.7	:
Innovation outputs									
Patent applications filed under the Patent Cooperation Treaty per billion GDP (in PPS €)	0.6	0.5	0.5	0.3	0.3	:	:	2.8	:
Employment share of high-growth enterprises measured in employment (%)	:	19.46	14.16	:	:	:	:	12.51	:
Digitalisation of businesses									
SMEs with at least a basic level of digital intensity % SMEs (EU Digital Decade target by 2030: 90%)	:	:	:	:	47.18	:	49.93	72.91	:
Data analytics adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	:	:	21.86	:	33.17	:
Cloud adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	9.93	:	14.22	:	38.86	:
Artificial intelligence adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	3.29	:	3.62	6.47	13.48	:
Academia-business collaboration									
Public-private scientific co-publications as % of total number of publications	5	5.7	4.5	5	5.3	5.6	:	7.7	8.9
Public expenditure on R&D financed by business enterprises (national) as % of GDP	0.014	0.014	0.029	0.026	0.021	:	:	0.05	0.02
Public support for business innovation									
Total public sector support for BERD as % of GDP	0.008	0.019	0.016	0.011	:	:	:	0.204	0.251
R&D tax incentives: foregone revenues as % of GDP	:	:	:	:	:	:	:	0.102	0.141
BERD financed by the public sector (national and abroad) as % of GDP	0.008	0.019	0.016	0.011	:	:	:	0.1	0.11
Financing innovation									
Venture capital (market statistics) as % of GDP, total (calculated as a 3-year moving average)	0.003	0.012	0.008	0.015	0.017	0.024	:	0.078	:
Seed stage funding share (% of total venture capital)	1	24.6	57.7	49.3	47.2	24.6	:	7.3	:
Start-up stage funding share (% of total venture capital)	10.9	59	35.8	47.3	50.2	64.5	:	44.0	:
Later stage funding share (% of total venture capital)	88.1	16.4	6.5	3.4	2.6	10.9	:	48.7	:
Innovative talent									
New graduates in science and engineering per thousand population aged 25-34	12.7	11.1	9.1	10.0	10.2	:	:	17.6	:
Graduates in the field of computing per thousand population aged 25-34	1.7	2.5	2.8	3.2	3.4	:	:	3.6	:

(1) EU average for the last available year or the year with the largest number of country data.

Source: Eurostat, DG JRC, OECD, Science-Metrix (Scopus database), Invest Europe, European Innovation Scoreboard

Despite some efforts to improve the business environment, Bulgarian businesses face the continuing challenges of political uncertainty, administrative and regulatory burden, and (skilled) staff shortages. Capacity constraints in the public sector negatively impact various areas of the business environment – such as the performance of the public procurement system, absorption of EU funds and the related poor quality of infrastructure. Regulatory restrictions in professional services and administrative burden remain high. Progress has been made on digital connectivity, but persistent inadequate digital infrastructure coverage in sparsely populated, remote and rural areas needs to be addressed.

Economic framework conditions

Insufficient availability of skilled staff and uncertainty about the future are weighing on business activity and investment. According to the EIB Investment Survey ([52]), the primary obstacles to long-term investments for Bulgarian businesses are insufficient availability of skilled staff (89%) (see also the Annex 10) and uncertainty about the future (82%). Short-term business indicators specifically point to labour shortages in manufacturing, where 25% of gross value added (GVA) is generated. In the pharmaceutical, metal and rubber production sectors especially, up to 72% of the firms reported labour shortages, a factor that limits production activity. In the service sector, which has a 68% GVA share, labour shortages are highest in tourism-related services, such as accommodation (63%) and food/beverages (54%). Finding skilled staff and experienced managers are, together with finding customers, the main problems for Bulgarian SMEs – respectively 30% and 17% of SMEs (broadly in line with the EU averages of 26% and 18%) ([53]).

Economic and political uncertainty as well as skill shortages also impact foreign investors' investment activities. Following a survey of managers, most foreign investors consider their current and short-term situation to be good or satisfactory, and are optimistic (albeit less optimistic than in 2023) ([54]). In terms of investment planning, Bulgarian investors are more optimistic (43%) than those in Romania, who responded to a similar survey (24.1%) ([55]). However, only 7% of the Bulgarian investors are satisfied with the level of political and social stability, and only 22%/27% are satisfied with the quality of academic education/vocational education and training (VET). In addition, the lack of skilled staff is forcing more than 50% of firms to reduce their planned level of investment. Nearly 80% of firms expect higher labour costs and are wary of accepting additional orders. In order to ease the negative impact, firms are increasingly investing in automation and digitalisation, educating their own staff and raising wages ([56]).

Access to finance is mainly an obstacle for construction activity, but late business-to-business payments risk disrupting firms' cash flows in all sectors. According to the EIB Investment Survey ([57]), availability of finance is an obstacle to investment for only 35% of Bulgarian firms (below the EU average of 45%) (see the Annex 5). Late business-to-business payments continue to be problematic for 27.7% of SMEs in 2024 (the EU average is 48%) ([58]). The business-to-business payment gap in 2024 has slightly decreased compared with 2023 and is now 16 days (the EU average is 15.5 days) ([59]). Corporate customers are among the slowest in the EU to make payments and above the EU average (65 days vs. 60 days). Customers in sectors such as banking and financial services, industry and chemicals, and construction even take up to 78 days. The payment gap from the public sector is increasing and is still above the EU average (19.7 days vs 16.2 days).

([52]) European Investment Bank, EIB investment survey 2024, based on interviews carried out between April and July 2024.
([53]) European Commission, Survey on access to finance for enterprises (SAFE), Analytical Report 2022.
([54]) AHK Bulgarian, Konjunkturumfrage 2024, EU-Mitgliedschaft und steuerliche Rahmenbedingungen: Bulgariens wichtigste Vorteile laut DBIHK- Konjunkturumfrage 2024.
([55]) AHK Romania, Business outlook, autumn 2024.
([56]) AHK Bulgarian, Konjunkturumfrage 2024, EU-Mitgliedschaft und steuerliche Rahmenbedingungen: Bulgariens wichtigste Vorteile laut DBIHK- Konjunkturumfrage 2024.
([57]) European Investment Bank, EIB investment survey 2024, based on interviews carried out between April and July 2024.
([58]) European Commission and European Central Bank, 2023 SAFE survey. Survey conducted between September and October 2023.
([59]) Intrum, European payment report 2024.

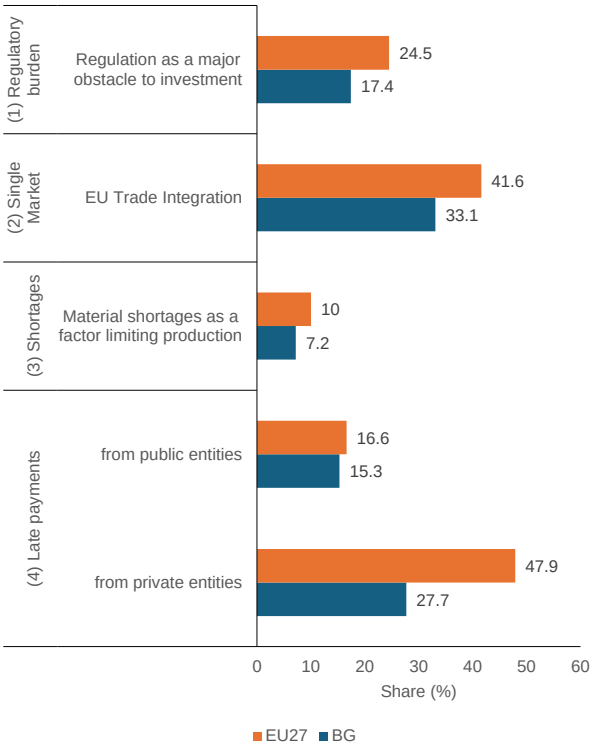
Bulgarian firms consider transport infrastructure as an obstacle to investment to a greater extent than their counterparts in the rest of the EU. According to the EIBIS 2024 survey ([60]), 58% of respondents see transport infrastructure as an obstacle to investment (compared with 45% in the EU). In addition, 62% (39% in the EU) consider inadequate infrastructure as a problem when doing business ([61]). Together with Cyprus, Hungary and Romania, Bulgaria is ranked the lowest in the World Bank's Logistics Performance Index (LPI) ([62]). The score of the infrastructure component – evaluating the quality of soft and hard trade and transport-related infrastructure (information technology, ports, railroads, roads) – is better (3.1) than in 2018 (2.8), but it reduces Bulgaria's overall performance on logistics ([63]).

Bulgaria has a well-developed and growing connectivity infrastructure with a high internet penetration rate and widely available broadband services (especially in urban areas – but rural areas lack coverage). Bulgaria's households have a high fibre-coverage for premises, with 88.6% connected (much higher than the EU average of 64%). However, Bulgaria's 5G-coverage and take-up of high-speed broadband remain below the EU averages of respectively 89.3% and 65.9% (5G covers only 70.9% of populated areas, and the take-up of fixed broadband subscriptions for speeds over 100 Mbps is only 53.4%). The high prices of gigabit services are an issue, given the low purchasing power of the average user.

Bulgaria is taking steps to improve its digital infrastructure. Bulgaria's recovery and resilience plan (RRP) includes a significant investment in the 'large-scale deployment of digital infrastructure on the territory of Bulgaria', with a measure to accelerate its efforts in connectivity and coverage. In particular, it will support the deployment of VHCNs (with a focus on sparsely populated, remote and rural areas) with a planned budget of EUR 270 million (BGN 528 million) from the Recovery and Resilience Facility.

([60]) European Investment Bank, EIB investment survey 2024, based on interviews carried out between April and July 2024.
([61]) Eurobarometer, Businesses' attitudes towards corruption in the EU in 2024, July 2024.
([62]) https://lpi.worldbank.org/international/scorecard.
([63]) The best performing country was Singapore, which had an index value of 4.6.

Graph A4.1: **Making Business Easier: selected indicators.**



Share of (1) enterprises, (2) average intra-EU exports and imports in GDP, (3) firms, (4) SMEs.
Source: (1) EIB IS, (2) Eurostat, (3) ECFIN BCS, (4) SAFE survey.

Bulgaria has a well-developed and growing connectivity infrastructure with a high internet penetration rate and widely available broadband services (especially in urban areas – but rural areas lack coverage). Bulgaria's households have a high fibre-coverage for premises, with 88.6% connected (much higher than the EU average of 64%). However, Bulgaria's 5G-coverage and take-up of high-speed broadband remain below the EU averages (5G covers only 70.9% of populated areas vs. 89% for the EU, and the take-up of fixed broadband subscriptions for speeds over 100 Mbps is only 53.4% vs. 65.9% for the EU). The high prices of gigabit services are an issue, given the low purchasing power of the average user.

Bulgaria has made regulatory progress on cybersecurity but continues to face high cybersecurity risks. 83.2% of enterprises had deployed some ICT security measures in 2022 (below the EU average of 92.8%) and 48.6% had made their employees aware of their obligations in ICT-security-related issues (significantly below the EU average of 60%). In 2024, 1.8% of enterprises

reported ICT security incidents caused by external cyberattacks (below the EU average of 3.4%).

Regulatory and administrative barriers

Bulgarian businesses face considerable administrative pressure and regulatory burden. Fewer firms than in the rest of the EU considered regulations as a major obstacle to investment (54% vs 66%) ([64]), but businesses that responded to a national survey ([65]) cited bureaucracy and regulatory burden (60%), often-changing regulation (47%) and corruption (47%) as the biggest barriers to business development. The OECD's economy-wide Product Market Regulation (PMR) indicator improved for Bulgaria between 2018 and 2024 and is now, with a value of 1.3, close to the EU average of 1.2 ([66]). However, Bulgaria ranks second lowest for the PMR sub-component 'administrative requirements for limited liability companies'. In particular, according to the OECD analysis, setting up a new firm is regulation-intensive. Improvements could be achieved by combining/digitising administrative processes for starting a business.

Bulgaria's 2021-2027 national strategy for small and medium-sized enterprises focuses specifically on entrepreneurship and entrepreneurial skills. The proposed measures include entrepreneurial education (also targeting schools and universities), and support for family businesses, crafts and other niche entrepreneurial activities. Despite political uncertainty, annual programmes that follow up and specify concrete measures are regularly set up by the Ministry of Economy and Industry in cooperation with concerned ministries (e.g. the Ministry of Education and Science). The latest implementation report cites various events, training courses and conferences to support businesses, as well as target and performance indicators.

Bulgaria has transposed the Restructuring and Insolvency Directive, but the impact on Bulgaria's business dynamism needs to be further monitored. According to the OECD ([67]) and World Bank ([68]), Bulgaria scores low for its insolvency framework in several areas: the *de jure* regulatory framework, the institutional and operational infrastructure, and time/cost required for the procedures. Changes to the Bulgarian Commercial Act in 2023 and secondary legislation are intended to improve long-standing shortcomings in Bulgaria's insolvency and restructuring regime. This reform and measures to implement the legislation are part of the Bulgarian RRP.

Business registrations declined across all sectors by an aggregate total of 24.6% during the COVID-19 year of 2020, but the 2024 data show a rather mixed performance. Business registrations were mainly driven by a dynamic information and communication sector, where business registrations increased by 46% (year on year), followed by accommodation and food service activities (33%). By contrast, business registrations in the industry and construction activities fell substantially by 14.5% and 53.3% respectively. Overall, bankruptcies increased only slightly, mainly driven by the wholesale/retail and transport sectors.

Tax compliance costs are close to the EU average and tax administration is operating in general efficiently, with possibilities to improve (see the Annex 2). For Bulgarian SMEs, the total cost of tax compliance for both direct and indirect taxes was on average 1.6% of turnover in 2019 (below the EU aggregate mean of 1.9%) ([69]). In terms of operational efficiency (including the time and functionality of the process of paying taxes, as well as the financial burden on firms), Bulgaria performed relatively well with a score of 71.6% (slightly below Estonia (72.0) but much better than Romania (61.5)). There is nevertheless room for improvement in public tax services (specifically developing integrated digital services

([64]) EIB Investment Survey 2024: European Union overview, p. 26.

([65]) Bulgarian Industrial Association: https://www.bia-bg.com/uploads/gallery/-%20ANKETI/Anketa_2024/ANKETA_2024.pdf

([66]) Lower index values of the PMR indicate a more favourable regulatory environment.

([67]) OECD, Enhancing insolvency frameworks to support economic renewal, 8/12/2022.

([68]) World Bank, Business Ready, 2024.

([69]) Tax compliance costs for SME, European Commission, 1/2022, p. 38.

for taxpayers, improving tax audits and the transparency of the administration) ([70]).

Single market

Bulgaria is relatively well integrated into the single market, but its participation in global production processes is slowing down ([71])**.** Bulgarian trade integration in goods was 26.7% of GDP in 2024 (slightly lower than the EU average of 27.4%) but trade in goods has slowed down in recent years. Trade in services is gradually picking up but remains only at 6.5% of GDP (far below the EU average of 14.7%). Economic ties in terms of trade and investments with Germany, Romania and Italy are significant for Bulgarian businesses ([72]).

Some administrative barriers to trade have been removed by Bulgaria in recent years, but there is still scope for further improvement. According to the OECD trade facilitation indicator, Bulgaria's score improved from 1.53 in 2019 to 0.92 in 2023, so still worse than EU average of 0.69 ([73]). Bulgaria's lower performance in international trade than peer countries (e.g. Romania, Hungary and Greece) in the World Bank's 'Business ready' survey reflects several shortcomings in the quality of public services' facilitation of international trade. The lack of integrated digital services and insufficient trade infrastructure means that there is a need for further development ([74]). Bulgaria has recently joined the Schengen area and this could encourage further progress by the administration and stimulate business and investment activities.

Bulgaria has made some progress in enacting single market legislation but it continues to struggle with fully and accurately enacting it as reflected in several single market enforcement indicators ([75])**.** The transposition deficit (which measures the percentage of all directives not transposed into national law) has decreased to 1.6%, but this is still well above the EU average of 0.8%. In addition, there is a large number of directives whose transposition is (long) overdue. Bulgaria is also reducing the number of incorrectly transposed directives (as can be seen from the conformity deficit, which decreased to1.3% in 2024 from 1.6% in 2023 (in 2024 the EU average was 0.9%). Bulgaria still ranks 25th out of the 27 EU Member States on the transposition deficit and 22nd for the conformity deficit. The high number of pending infringement cases continues to hamper businesses, especially in the digital economy, transport, and goods and public procurement ([76]). Bulgaria resolved 92.3% of the SOLVIT ([77]) cases it handled as lead centre in 2024 (the EU average was 84.9%).

Several professional services are more strictly regulated than in the other EU countries. According to the European Commission ([78]) and the OECD ([79]), regulatory barriers remain higher in Bulgaria than in comparable countries for lawyers, notaries, architects and civil engineers. Those barriers mostly take the form of shareholding requirements, obligatory fees and company form restrictions ([80]). Exclusive rights for these professions remain broad, harming the development of innovative services. According to the OECD, the barriers to entry in service sectors were as high in early 2023 as in 2019.

Public procurement

Bulgaria has made some progress in reforming its regulatory framework in public procurement but a lack of competition

([70]) World Bank, Business Ready, 2024.
([71]) Magistretti, G. and Vassileva, I. (2024). Bulgaria in Global Value Chains: Leveraging Integration with the EU, IMF selected issues, SIP/2024/023.
([72]) Eurostat.
([73]) See OECD Product Market Regulation indicators: low-levels of the indicator signify a more favourable state of the regulatory environment for competition.
([74]) World Bank, Business Ready, 2024.
([75]) Single Market Scoreboard, 2024.
([76]) European Commission, 2023 Annual Report on monitoring the application of EU law, 2024.
([77]) SOLVIT is a service to help businesses and citizens in the event of an EU Member State other than their own breaching EU law.
([78]) European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 9 July 2021 on taking stock of and updating the reform recommendations for regulation in professional services of 2017, COM (2021)385 final.
([79]) OECD, Product Market Regulation (PMR) indicators: How does Bulgaria compare? OECD, 2024.
([80]) European Commission, COM (2021)385 final.

remains a concern. In 2024, competition in Bulgaria's public procurement remains restricted, as evidenced by several indicators. In particular, the single bids indicator (which represents the number of procedures where the contract was awarded to the sole bidder) reached 36% (37% in 2023). Furthermore, a significant proportion of contracts (31%) were unsuccessful ([81]), while 21% of contracts were awarded without competition through a negotiated procedure without prior publication.

Businesses express concerns about public procurement procedures and these concerns are confirmed by this year's OECD PMR indicator. In a national survey by the Bulgarian Industrial Association, only 21% of the respondents confirmed that they participated in tender procedures in 2024 (compared with 29% in 2023). The most common problems encountered by participants are the biased setting of conditions by a contractor (26%), the biased evaluation of tenders (21%) and an incorrect requirement to provide data already known to the contracting authorities (19%). According to the OECD indicator on public procurement ([82]), tender procedures in Bulgaria are *de jure* less favourable to competition than in the rest of the EU ([83]). The challenges in the public procurement system also impact the quality of infrastructure mentioned above.

Bulgaria encourages sustainable procurement, but an integrated approach based on stable legislation would be a major improvement. Bulgaria has set up different action plans (e.g. the transition to a circular economy or the national environmental strategy, which contain elements on green procurement, such as guidelines, optional trainings and online information tools) ([84]). Implementation challenges remain, due to the lack of professionalisation and capacity of public procurement staff and insufficient strategic planning by public buyers.

([81]) No tenders or requests to participate were received or all were rejected; or other reasons of not successful contracting.
([82]) See OECD Product Market Regulation indicators: low-level indicators, barriers to trade – facilitation and tariff barriers.
([83]) Bulgaria's index value is 0.8, the EU average is 0.5.
([84]) European Commission, Article 83 – public procurement monitoring reporting, 2021-2023.

Table A4.1: **Making business easier: indicators**

Bulgaria							
POLICY AREA	**INDICATOR NAME**	**2020**	**2021**	**2022**	**2023**	**2024**	**EU-27 average**
Investment climate							
Shortages	Material shortage, firms facing constraints, %[1]	4.4	7.3	12.3	11.6	7.2	10.0
	Labour shortage, firms facing constraints, %[1]	29.6	29.5	34.9	36.7	39.1	20.2
	Vacancy rate, vacant posts as a % of all available ones (vacant + occupied)[2]	0.6	0.7	0.8	0.7	0.7	2.3
Infrastructure	Transport infrastructure as an obstacle to investment, % of firms reporting it as a major obstacle[3]	18.5	19.2	30.8	25.9	28.3	13.4
	VHCN coverage, %[4]	-	81.4	85.6	88.6	-	78.8
	FTTP coverage, %[4]	-	81.4	85.6	88.6	-	64.0
	5G coverage, %[4]	-	40.1	67.2	70.9	-	89.3
Reduction of regulatory and administrative barriers							
Regulatory environment	Impact of regulation on long-term investment, % firms reporting business regulation as a major obstacle[3]	20.6	24.9	19.6	21.4	17.4	24.5
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment[5]	17.0	14.1	14.0	17.0	16.0	15.6
	Payment gap - public sector, difference in days between offered and actual payment[5]	25.3	9.9	15.4	19.0	19.7	15.1
	Share of SMEs experiencing late payments, %*[6] — from public or private entities in the last 6 months	30.3	32.4	25.1	30.7	-	-
	Share of SMEs experiencing late payments, %*[6] — from private entities in the previous or current quarter	-	-	-	-	27.7	47.9
	Share of SMEs experiencing late payments, %*[6] — from public entities in the previous or current quarter	-	-	-	-	15.3	16.6
Single Market							
Integration	EU trade integration, % (Average intra-EU imports + average intra EU exports)/GDP[2]	34.2	37.3	40.9	36.2	33.1	41.6
	EEA Services Trade Restrictiveness Index[7]	-	-	-	-	-	0.050
Compliance	Transposition deficit, % of all directives not transposed[8]	1.6	2.2	1.8	1.7	1.6	0.8
	Conformity deficit, % of all directives transposed incorrectly[8]	1.9	2.1	2.0	1.6	1.3	0.9
	SOLVIT, % resolution rate per country[8]	100	95.0	100	100	92.3	84.9
	Number of pending infringement proceedings[8]	42.0	38.0	38.0	36.0	31.0	24.4
Public procurement							
Competition and transparency in public procurement	Single bids, % of total contractors**[8]	26	32	34	37	36	-
	Direct awards, %**[8]	29	25	23	21	21	7.0

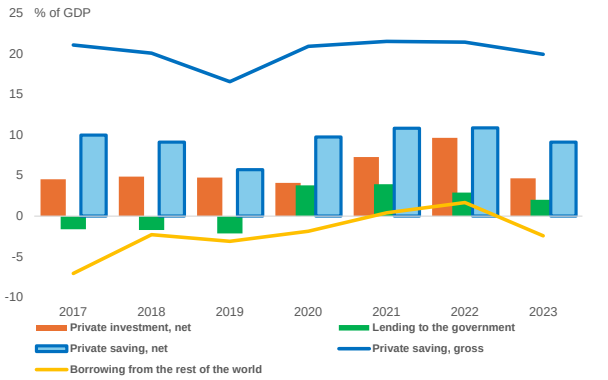
*Change in methodology in 2024: reporting late payments from public and private entities separately.
**The 2024 data on single bids is provisional and subject to revision. Please note that approximately 19% of the total data is currently missing, which may impact the accuracy and completeness of the information. Due to missing data, the EU average of direct awards data is calculated without Romania.
Source: (1) ECFIN BCS, (2) Eurostat, (3) EIB IS, (4) Digital Decade country reports; target = 100%, (5) Intrum Payment Report, (6) SAFE survey, (7) OECD, (8) up to 2023: Single Market and Competitiveness Scoreboard, 2024: Public procurement data space (PPDS).

The low reliance on listed shares and bonds for raising finance underscores the underdeveloped state of Bulgaria's capital markets and highlights the need for reforms. Retail participation ([85]) in capital markets remains weak, while institutional investors place most of their assets in foreign securities. At the same time, the Bulgarian banking sector, which is profitable, very liquid, and adequately capitalized, is the main source for finance for Bulgarian non-financial corporations (NFCs). However, innovative start-ups with limited or no credit history often struggle to secure bank funding. The amount of capital invested by Private Equity (PE) and Venture Capital (VC) investors is increasing, but from a very low base, leaving a significant funding gap for startups and innovative firms.

Availability and use of domestic savings

Domestic net private savings in Bulgaria have been exceeding the sum of net private investment and the amount lent to the government over the past few years, making Bulgaria a lender of capital to the international community. Over the last decade, the gross savings rate of the private sector in Bulgaria has hovered around 20% of its gross domestic product (GDP), which stands below the euro area average of 23.8%. Approximately half of it finances fixed capital consumption, hence the country's net private savings ratio, on average, is around 10%. The net private investment position has averaged around 6% over the past five years. (see Graph A5.1). This level allows part of the savings either be lent to the government in Bulgaria or the rest of the world. Lending to the government has shown variability, fluctuating between negative and positive values. Domestic capital markets are underdeveloped and not very appealing to locals. As a result, Bulgaria has been a net lender to the international community over the past few years. On average, Bulgaria is lending around 2.8% of its GDP to the rest of the world, subject to some fluctuations influenced by its domestic economic conditions, investment climate and government borrowing needs.

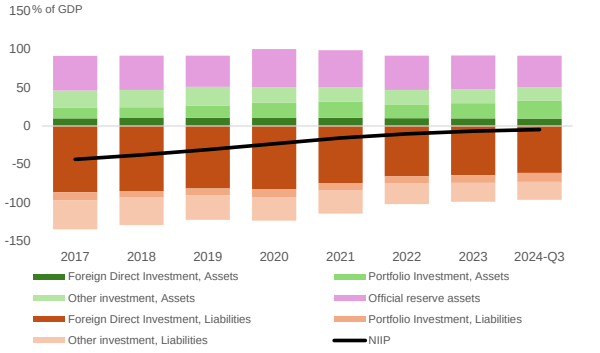
Graph A5.1: **Net savings-investment balance**



Source: AMECO.

Bulgaria's net international investment position (NIIP) has steadily improved over the past few years but remains negative. In the past, Bulgaria accumulated significant foreign debt and thus exhibited a material negative NIIP that stood at -43.5% of GDP in 2017. The decrease in net foreign liabilities, driven mostly by a decrease in net foreign direct investments (FDIs) and net other investments, were the main drivers to this improved NIIP position, which by September 2024, improved by 90% compared to 2017 and stood at -4.7% of GDP (see Graph A5.2). Overall, the Bulgarian economy is well integrated in international capital flows, and its improving NIIP position indicates progress towards reducing its reliance on foreign capital. Nevertheless, despite being a net lender in recent years, Bulgaria's NIIP remains negative, reflecting past reliance on foreign capital, mostly via non-market channels like FDIs.

Graph A5.2: **International investment position**



Source: ECB.

([85]) Throughout this annex, "retail participation" refers to the involvement of individual (non-institutional) investors in capital markets.

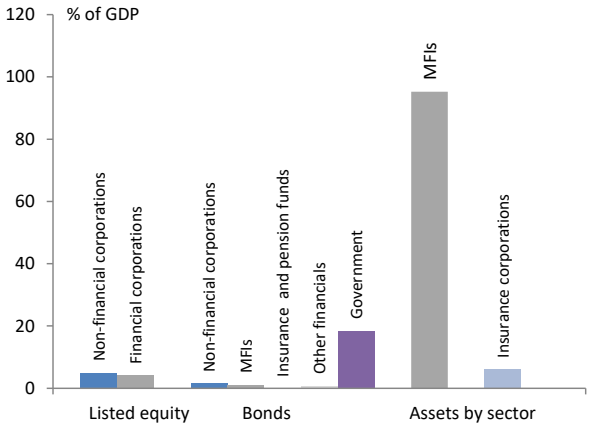
Structure of the capital markets and size of the financial sector

The Bulgarian capital markets remain small and play a limited role in financing domestic firms. The market-funding ratio, which encompasses funds raised through equity markets (stocks), debt markets (bonds) and other market instruments (including venture capital and private equity funds) has been declining in recent years. In December 2023, this ratio stood at 11.3% of GDP, down from 11.7% in 2022 and 12.3% in 2021. It is one of the three lowest in the EU, significantly lagging behind the EU average of 49.6% (as shown in Table A5.1).

Bulgaria's equity market is inefficient and underutilised, despite having the necessary infrastructure in place. The Bulgarian Stock Exchange (BSE) plays a critical role in facilitating market transactions through its structured main and alternative markets ([86]). In September 2024, the BSE's market capitalisation was equivalent to just 8.4% of GDP, significantly below the EU average of 69%. The size and the liquidity of the capital market deter corporates from seeking public equity financing on the stock exchange. The inclusion of new issuers and capital raised through different segments of the BSE and the SME Growth market BEAM ([87]), reflects ongoing efforts to increase market-based funding. The development of BEAM underscores the benefits of simplifying SME listing requirements, thereby enhancing access to capital markets for growing businesses. However, the lack of market depth, high listing costs, and the overall higher perceived risks associated with traded stocks in Bulgaria - partly rooted in legacy issues ([88]) - continue to drive investors away from the BSE. These issues contribute to the persistent inefficiency and underutilisation of the BSE.

Bulgarian corporates face challenges in accessing financing through the domestic debt capital market. Government debt issuance in Bulgaria is primarily conducted on international markets, with only a quarter of the outstanding amount issued domestically ([89]). This has a ripple effect on corporate bond issuance, as investors struggle to establish reliable benchmarks to price corporate bonds. Other reasons the Bulgarian companies underutilise corporate bonds include the ease of bank financing, limited knowledge of the bond-issuance process, and relatively high associated costs of bond issuance. Nonetheless, bond issuances have nearly doubled in recent years, suggesting growing momentum for corporate bond financing, albeit from a very low base.

Graph A5.3: **Capital markets and financial intermediation**



Source: ECB, EIOPA, AMECO.

The Bulgarian authorities recognise the importance of capital-market development and have made it a priority. A recent EU-funded project assessed the Bulgarian capital markets and identified key barriers to growth, resulting in 60 recommended actions ([90]). Barriers to the growth of Bulgaria's capital markets include: (i) low trust due to legacy issues; (ii) a limited asset base; (iii) minimal free floats; and (iv) the higher cost and complexity of market financing compared with bank loans. Studies have also highlighted areas for improvement in the country's institutional framework ([91]) and in financial

([86]) See BSE Sofia market segmentation

([87]) The SME growth market, the Bulgarian Enterprise Accelerator Market (widely known as the BEAM), was set up in 2018 and is a specific category of multilateral trading facility, introduced under the EU's MiFID II framework, designed to support SMEs in accessing capital, imposing lighter regulatory requirements than the main market.

([88]) Sofix, the BSE's major index, lost almost 87% of its market capitalisation between October 2008 and February 2009.

([89]) See Central Government Debt and Guarantees Monthly Bulletin for November 2024.

([90]) See Diagnostic of the State of Development of the Bulgarian Capital Market.

([91]) According to the World Bank's Worldwide Governance Indicators, Bulgaria is one of the three worst performers in the EU-27 in the areas of government effectiveness, political

literacy, both of which may pose challenges to further progress. The government's commitment to the successful implementation of the recommended actions is key to fostering market development. The country must be ready to fully capitalise on its upcoming adoption of the euro, which represents a significant opportunity to attract increased investment and accelerate growth in Bulgaria's capital markets.

Resilience of the banking sector

Bulgaria's banking sector plays a crucial role in financing the economy, despite its relatively small size. In December 2024, there were 23 banks operating in Bulgaria ([92]). The total amount of assets of the banking system increased by 11.4% to EUR 98 billion ([93]), compared to a year earlier. The size of the banking sector in Bulgaria, at 94% of GDP, is relatively small compared with the EU average, which stands at 248% of GDP (as shown in Table A5.1). The four largest banks held approximately 69% of all banking assets, indicating a high degree of concentration, given that the EU average is 54%. The market share of the 12 less significant institutions stood at approximately 29%. The six foreign credit institutions from EU and non-EU member states operating via branches in Bulgaria had a market share of less than 3% ([94]). The four significant institutions are directly supervised by the European Central Bank (ECB) and the rest by the Bulgarian National Bank, under the oversight of the ECB. Commercial banks in Bulgaria are mostly foreign owned. Domestic ownership in banks comprises approximately one-fifth of the total banking sector assets. The Bulgarian Development Bank is the only State-controlled bank in the country.

In 2024, Bulgarian banks maintained the high profitability level achieved in the previous year, driven predominantly by high level of net interest income and net fee, and also by commission income. The former rose by almost 15% year-on-year, largely due to strong contribution of interest income from both the household and NFCs' sectors. Additionally, net fee and commission income also contributed to the total operating profit, marking a 8.9% year-on-year increase. However, impairments increased substantially, rising by 60% from the previous year. However, as the asset quality does not appear to have deteriorated during the year (refer to paragraph on asset quality), the additional provisions are attributed to the banks' efforts to clean up their balance sheets and proactively curtail the creation of new non-performing loans (NPLs) stemming from macroprudential risks. The increase in administrative expenses by 12.2%, and in staff expenses by 13.8%, are consistent with the growth of the assets on the balance sheet, and the rising salary levels in the country, respectively ([95]). As a result, the Bulgarian banking sector exhibited strong profitability in 2024, achieving a net profit after tax of EUR 1.9 bn, which represents an 8.1% increase over the previous year. Consequently, the cost-to-income ratio remained low at 38.2%, with the return-on-equity (RoE) at 15.7% ([96]). Both metrics compare favourably with the corresponding EU averages of 53% and 10%, respectively.

The Bulgarian banking sector is well-capitalized and liquid. The capital position of the banking system remained solid, despite the growth in risk-weighted assets resulting from the credit expansion. Own funds rose to EUR 10.7 billion in December 2024 (from EUR 9.3 billion a year earlier), driven by organic capital generation from higher profits. The Common Equity Tier 1 (CET1) capital ratio stood at 22.1% ([97]), well above the regulatory minimum, indicating strong financial health. This is also thanks to a consistent policy by the Bulgarian National Bank to maintain high capital buffer requirements, including a countercyclical buffer rate incrementally raised to 2% and a systemic risk buffer of 3%, applicable to all institutions authorised in Bulgaria. Furthermore, the sector is cash-rich, with a liquidity coverage ratio (LCR) of 244%, and a net stable funding ratio

stability, rule of law, regulatory quality, control of corruption, and voice and accountability.

([92]) See Bulgarian National Bank, December 2024, Data of the banking system

([93]) The Bulgarian lev (BGN) has been pegged to the euro at an exchange rate of 1 euro = 1.95583 leva since the introduction of the euro on 1st January 1999. This Annex uses the euro equivalent throughout.

([94]) See Bulgarian National Bank's Banks in Bulgaria - quarterly bulletin

([95]) See Bulgarian National Bank, December 2024, Data of the banking system

([96]) Annualised ECB data, Q3 2024, refer to Table A5.1

([97]) Annualised ECB data, Q3 2024, refer to Table A5.1

of 162%, which remain among the highest in the EU ([98]). In 2024, Bulgarian banks issued securities eligible for the Minimum Requirement for own funds and Eligible Liabilities (MREL), increasing their average MREL level to 30.4% of Total Risk-Exposed Amount (TREA) by June 2024, further closing the shortfall to the binding target to approximately EUR 0.4 billion (3.5% of TREA) ([99]).

The asset quality did not show signs of deterioration, despite the growth in lending, but the non-performing loans (NPLs) ratio remains higher than the EU average. In Q3-2024, the NPL ratio fell to 3% from more than 10% in 2017. Despite the significant progress, this level is above the EU average of 1.9% (as shown in Table A5.1). Notwithstanding the significant credit growth, the nominal amount of NPLs decreased by 1% to EUR 1.9 billion, which indicates that the credit quality did not deteriorate in the year. Moreover, the coverage ratio of gross non-performing loans was 47.8%, indicating sufficient provisions to cover potential losses.

The banking sector's challenges and risks to financial stability remain largely unchanged from last year. The main concerns stem from external economic uncertainties, which could negatively impact asset quality if economic conditions worsen. Also, lending activity in the private sector remained elevated during 2024. This prolonged period of high credit growth, fuelled by increased household demand due to rising disposable income and low interest rates, raises concerns about credit risk and potential real estate market overheating. Other emerging risks, include climate and cybersecurity threats for which banks remain vigilant. To preserve the resilience of the banking system in the context of increasing medium-term cyclical risks, the Bulgarian National Bank introduced borrower-based-measures, effective from 1 October 2024 ([100]) ([101]).

([98]) See EBA's Risk Dashboard - Q4 2024
([99]) See EBA's MREL dashboard - Q2 2024
([100]) See Bulgarian National Bank's press release about the introduction of borrower-based measures.
([101]) In March 2025, based on statistics from Q4 2024, the Bulgarian National Bank issued a press release that measures have had an effect on an effect on lending.

Resilience of the non-bank financial intermediaries

The non-bank credit sector has been growing rapidly in Bulgaria over the last few years. Credit issued by corporations specialising in lending has increased by around 22% on an annual basis since 2022 and reached EUR 3.2 bn ([102]). As a result of the strong credit activity by these credit corporations, the level of consumer loans in the sector's balance sheet in September 2024 was roughly one fifth of the consumer credit held in the banking sector's balance sheet. Corporations specialising in lending also lend to NFCs, but this segment is not their main focus. The non-bank sector has self-organised to uphold best practices ([103]), including preventing fraudulent practices from taking place.

The Bulgarian insurance market remains significantly smaller than the EU average. In September 2024, the Bulgarian insurance market comprised 46 active insurance companies ([104]). General insurance companies manage assets of EUR 4.1 billion, while life insurance companies manage EUR 1.7 billion. The market is relatively small, with total assets equivalent to less than 6.2% of GDP, significantly below the EU average of 54.8% (as shown in Table A5.1). The Bulgarian insurance and pensions industry is overseen by the Financial Supervision Commission. Post-ERM II commitments in the area of non-bank financial sector have been fully addressed, with new regulations introduced to enhance supervisory effectiveness. As of December 2023, the industry's equity capital was EUR 1.94 billion and technical reserves were EUR 2.81 billion, with a relatively robust solvency ratio of 187.4%, which is however below the EU average of 258.6%.

Bulgaria's second and third pillar pension funds are growing strongly and are projected to expand further as wages increase. In addition to the first pillar pension system administered by the National Social Security Institute, Bulgaria offers four supplementary pension funds under the second pillar and third

([102]) See Bulgarian National Bank's Statistical Press Releases on non-bank corporations specialising in lending.
([103]) See AOHK | Association for Responsible Non-Banking Lending.
([104]) See the ECB's list of insurance corporations.

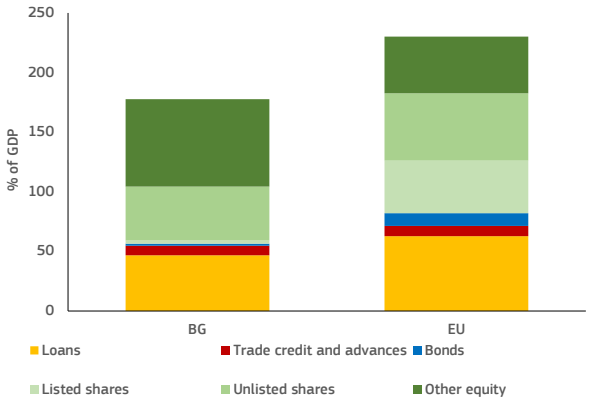
pillar ([105]). In March 2024, the net assets under management by the four pension funds amounted to EUR 12.2 billion ([106]) compared with EUR 11.7 billion in December 2023 (and EUR 9.8 billion in end-2022), clear evidence that the sector is growing.

Bulgaria's investment-fund sector is modest, but gradually expanding. In 2024, the sector played a rather minor role in the broader financial system, compared to banking and non-bank financial institutions. In December 2024, 1 628 funds were operating in Bulgaria, of which the resident (local) investment funds were 150 (112 UCITS and 38 alternative investment funds). The total assets under management by Bulgarian investment funds amounted to EUR 1.9 billion, equivalent to around 2% of 2024 GDP ([107]). This size is comparable to that of several euro-area countries with smaller financial sectors. In addition, foreign funds distributed in Bulgaria, managed an additional EUR 4.1 billion of assets. The total amount of assets under management of both resident and non-resident investment funds increased by EUR 1 billion (21%). Investment funds are continuously expanding the range of alternative investment opportunities they offer, and as a result, the sector is expected to grow further in the coming years.

Sources of business funding and the role of banks

Bulgarian corporates rely on bank finance through loans or internal resources to cover their funding needs, and they tend to avoid tapping the capital markets. Bank finance through loans accounts for approximately a quarter of Bulgarian NFCs' total financing needs, similar to the EU average. In contrast, other forms of financing, such as unlisted equity or partnerships, account for 67% of total financing in Bulgaria, far exceeding the EU average of 45%. Consequently, the level of financing through the capital markets in Bulgaria is significantly lower than the EU average. In particular, bond issuance and listed shares play a minor role in NFC financing in Bulgaria. Bond issuance accounts for only 1% of total financing, and listed shares account for less than 2%, significantly below the EU averages of 5% and 19%, respectively.

Graph A5.4: **Composition of NFC funding as a % of GDP**



(1) Reference period is end-2023
Source: Eurostat

The Bulgarian banking sector has experienced rapid growth in lending over the past several years. After a period of subdued lending activity that lasted until 2017, banks in Bulgaria began to actively expand their lending portfolios. Their focus has been on mortgage lending, but they have also channelled funds to NFCs. Several factors have contributed to this growth, including low interest rates ([108]), abundant liquidity in the banking system, rapid increases in incomes, and positive consumer sentiment. In September 2024, this trend of loan growth continued, with the total amount of loans for households growing by 21.3% year on year, while loans to NFCs increased by 9.1% (as shown in Table A5.1).

Bulgarian corporates are expected to continue to have relatively easy access to

([105])The second pillar is a defined contribution system and is mandatory for individuals born after 1959 and comprises (i) the Universal Pension Funds, which has the largest share (c.80%) of insured persons; and (ii) the Occupational Pension Funds (PPFs) for individuals working in hazardous professions that are typically allowed to retire earlier. The third pillar is a voluntary defined contribution system and comprises: (i) the Voluntary Pension Funds; and (ii) the Voluntary Pension Funds under Professional Schemes.

([106])See Bulgaria's Financial Supervision Commission's Results of the supplementary pension insurance activity for 2023.

([107])See Bulgarian National Bank's Investment Funds Statistics.

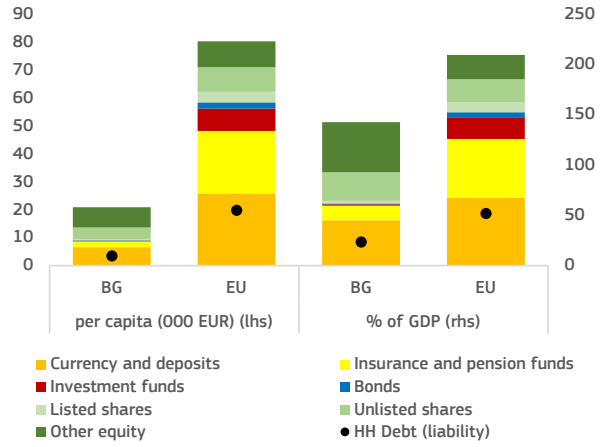
([108])The Bulgarian lev is fixed to the euro, but the transmission of the ECB's monetary tightening in recent years was very weak in Bulgaria, especially for the households' sector, due to abundant liquidity and the resulting very low rates on deposits.

funding in the future. The strong liquidity in the banking system, and the relatively low loan-to-deposit (LTD) ratio ([109]) suggests that there is sufficient headroom for additional lending should banks maintain their appetite for extending credit. According to the European Investment Bank's CESEE Bank Lending Survey ([110]), credit demand in Bulgaria is expected to stagnate in the coming months, and credit supply might even tighten. Nevertheless, the conditions faced by corporates seeking to access funding are projected to remain good. Accordingly, businesses are unlikely to face significant challenges in securing stable and affordable bank loans in the near term. However, firms with no credit history, such as innovative start-ups, may still encounter difficulties.

The participation of retail investors in capital markets

Bulgarians take a conservative approach to managing their financial assets, with a strong preference for deposits. The amount of financial assets per capita in Bulgaria is EUR 21 000, which is 25% of the average in the EU-27. Bulgarian households hold around a third of their financial assets in currency and deposits, similar to the EU average. In contrast, Bulgarians allocate a significantly lower proportion of their financial assets to insurance and pension funds than the EU average (Bulgarians allocate 10% against an EU average of 28%). Furthermore, they have minimal exposure to investment funds, bonds, and listed shares, with a cumulative exposure of just over 3%, compared to 18% in the EU (as shown in Graph A5.5).

Graph A5.5: **Composition of HH financial assets per capita ('000 EUR) and as a % of GDP**



(1) Reference period is end-2023.
Source: Eurostat.

Promoting alternative investment products and incentivising retail participation is essential to further develop Bulgaria's capital markets. Households tend to prioritise liquidity over more complex financial investments. Lower income levels in the country hamper the ability of poorer households to save and invest. Other factors, such as fewer market offerings, and the need to further increase financial literacy may also contribute to this investing behaviour. Nevertheless, given the rising levels of average income, a comprehensive review of existing incentives to promote retail participation is warranted. Building trust in the market is crucial, and maintaining compliance with sound corporate governance practices is essential to this end. To incentivise retail participation in capital markets, policymakers could introduce tax breaks for long-term investments and develop tax-advantaged investment savings accounts for households.

The role of domestic institutional investors

Insurance companies in Bulgaria exhibit a conservative investment strategy, with a limited allocation to local corporate bonds and shares. Insurance companies in Bulgaria allocate only 14% of their assets to corporate bonds (of which only 1% is allocated to locally issued corporate bonds) and 26% to shares (of which only 7% is allocated to local shares). About 47% of their assets are allocated to government

([109])The banking system's LTD ratio rose to 73% in June 2024 but remained below the EU average of 95%, giving Bulgaria the 11th lowest LTD ratio in the EU-27.

([110])European Investment Bank's Central, Eastern and South-Eastern Europe (CESEE) Bank Lending Survey of second half of 2024

bonds. Notably, 35% of all insurance assets are invested in Bulgaria, 55% in other EU countries, and the rest outside Europe.

Bulgaria's pension funds have a substantial presence in the country's financial market, with a large proportion of their assets invested abroad. Most of the sector's EUR 11.71 billion net assets under management in December 2023, were allocated to foreign assets. Of those, 70% are invested in foreign government bonds and foreign shares. The remaining amount is invested domestically, and approximately half is placed in deposits or invested in government securities ([111]).

Investment funds' role in financing the economy remains modest. The assets of resident investment funds are allocated 62% to equity funds, 24% to bond funds, and the rest to mixed and other funds. The currency breakdown of resident investment funds' assets showed a prevailing share of assets denominated in BGN (63%) and in EUR (32%) ([112]).

The depth of venture and growth capital

Despite growth in the past five years, local private-equity (PE) and venture-capital (VC) markets remain too small to meet the financing needs of innovative firms. PE and VC are valuable sources of finance for companies as they grow, providing finance and offering useful guidance to management. In Bulgaria, the amount of capital invested by VC and PE firms is on a growing trajectory since 2019, and by 2023 the country has increased its investment value fourfold ([113]). However, despite their potential, both sources of finance remain limited in Bulgaria compared with elsewhere in the EU. In December 2023, the average annual PE investment in Bulgaria as a percentage of GDP was 0.06%, significantly lower than the 0.41% average in the EU. The average VC investment was even smaller, equivalent to less than 0.03% of GDP, which is approximately 60% of the EU average for VC fund investment (as shown in Table A5.1). Moreover, VCs in Bulgaria focus more on early-stage businesses, which is positive for innovation but may pose challenges when scaling start-ups to more mature businesses ([114]). Furthermore, VC funds active in Bulgaria face several challenges in attracting funds from local institutional investors. These challenges include legal or regulatory constraints on the investments of pension funds, which limit exposure to PE and VC ([115]).

The growth of Bulgaria's start-up ecosystem in the past few years has been mainly driven by public institutional support, injecting capital inflows. The European Investment Bank and the European Investment Fund are both actively involved in the development of Bulgarian capital markets. They provide advisory services and financial instruments to improve market infrastructure and increase the capacity of local financial institutions. Two distinct entities, the Fund of Funds (FoF) ([116]) and the Recovery Equity Fund of Funds (REF) ([117]), each with specific objectives and funding sources, operate with the aim of increasing access to finance for Bulgarian businesses, including innovative firms and start-ups.

Financing the green transition

Bulgaria has not yet issued any Environmental, Social, and Governance related (ESG) bond. Despite efforts to integrate sustainable finance practices by adhering to broader EU directives and strategies, Bulgaria is one of the two EU countries with no ESG bond issuance ([118]). However, driven by regulatory requirements and market pressures, Bulgarian financial institutions are increasingly incorporating environmental, social, and governance factors into their operations. Efforts to promote green financing in Bulgaria stem primarily from public initiatives, particularly those outlined in Bulgaria's

([111])See Bulgaria's Financial Supervision Commission's Results of the supplementary pension insurance activity for 2023.
([112])See Bulgarian National Bank's Investment Funds Statistics.
([113])See Bulgarian Private Equity and Venture Capital Association, 2024, Private Investment in Bulgaria & South Eastern Europe
([114])See also Annex 1: Innovation to Business.
([115])See 2024 Survey of Investment Regulation of Pension Providers.
([116])See Fund of Funds | FMFIB.
([117])See Recovery Equity Fund of Funds of Bulgaria.
([118])Refer to Association for Financial Markets in Europe (AMFE's) Capital Markets Union Key Performance Indicators – Seventh Edition November 2024

Table A5.1: **Financial sector indicators**

		2017	2018	2019	2020	2021	2022	2023	2024-Q3	EU
Banking sector	Total assets of MFIs (% of GDP)	101.6	101.8	100.4	107.2	100.9	95.3	95.3	94.0	248.4
	Common Equity Tier 1 ratio	20.2	19.3	18.4	22.0	22.0	20.4	20.5	22.1	16.6
	Total capital adequacy ratio	21.8	20.6	19.5	23.1	22.9	21.3	22.1	23.8	20.1
	Overall NPL ratio (% of all loans)	10.2	7.7	6.5	5.9	4.8	3.7	2.9	3.0	1.9
	NPL (% loans to NFC-Non financial corporations)	17.3	12.7	10.7	9.6	7.6	6.5	5.1	5.2	3.5
	NPL (% loans to HH-Households)	11.4	9.0	7.2	7.3	5.8	4.0	3.0	2.9	2.2
	NPL-Non performing loans coverage ratio	50.6	52.7	48.3	48.2	49.7	49.8	49.2	47.8	42.1
	Return on equity[1]	10.2	11.8	11.2	4.9	8.8	11.2	16.3	15.7	10.0
	Loans to NFCs (% of GDP)	30.4	30.0	29.1	29.7	27.0	24.7	24.1	23.8	30.0
	Loans to HHs (% of GDP)	19.1	19.9	19.9	21.1	20.7	19.7	20.7	22.3	44.5
	NFC credit annual % growth	4.8	8.6	7.6	4.0	5.7	11.1	8.8	9.1	0.8
	HH credit annual % growth	8.9	9.1	10.6	7.6	14.5	16.0	16.8	21.3	0.7
Non-banks sector	Stock market capitalisation (% of GDP)	-	-	-	10.1	11.1	9.2	9.2	8.4	69.3
	Initial public offerings (% of GDP)	0.00	0.20	0.00	0.01	0.21	0.17	0.03	-	0.05
	Market funding ratio	17.0	15.4	15.3	13.6	12.3	11.7	11.3	-	49.6
	Private equity (% of GDP)	0.03	0.02	0.02	0.02	0.04	0.05	0.06	-	0.41
	Venture capital (% of GDP)	0.01	0.01	0.01	0.01	0.03	0.01	0.03	-	0.05
	Financial literacy (composite)	-	-	-	-	-	-	43.5	-	45.5
	Bonds (as % of HH financial assets)	0.4	0.2	0.3	0.3	0.2	0.2	0.5	-	2.7
	Listed shares (as % of HH financial assets)	1.9	1.8	1.9	1.8	1.8	1.7	1.8	-	4.8
	Investment funds (as % of HH financial assets)	0.7	0.7	0.8	0.8	1.0	0.9	0.9	-	10.0
	Insurance/pension funds (as % of HH financial assets)	11.1	11.4	12.1	12.6	10.9	9.6	10.3	-	27.8
	Total assets of all insurers (% of GDP)	6.6	6.8	6.8	7.5	7.3	5.9	6.1	6.2	54.8

1-3 | 4-10 | 11-17 | 18-24 | 25-27 Colours indicate performance ranking among 27 EU Member States.

[1] Annualised data.

Credit growth and pension funds EU data refers to the EA average.

Source: ECB, Eurostat, EIOPA, DG FISMA CMU Dashboard, AMECO.

Recovery and Resilience Plan. Nevertheless, the scale of climate investment required cannot be met by public funding alone. Developing the capital market, including the creation of a functioning green bond market, is important for boosting climate-related investment in Bulgaria and attracting private investors.

Financial literacy

The relatively low level of financial literacy ([119]) in Bulgaria hinders the growth of capital markets, although recent initiatives show promise in educating and engaging market participants. Many households remain unaware of alternative investment options, while businesses often lack an understanding of the potential benefits of capital-market finance. However, there has been an enthusiastic response from SMEs to the BEAM market and from retail investors to international investment opportunities via the MTF BSE International ([120]). This indicates that there is sufficient knowledge to support the organic growth of the market at its current stage. In recent years, institutions and market participants have launched numerous initiatives to increase financial literacy, including in capital markets. The national strategy for financial literacy, adopted by Bulgaria's government in 2021, accompanied by an action plan that outlines priority activities until 2025 ([121]), is a step in the right direction. However, this strategy and its action plan are not yet fully implemented, and therefore their effectiveness is yet to be proven. After an assessment of the implementation of the strategy and the first action plan, a new Action Plan 2026-2030 is planned to be elaborated and implemented.

([119])See Eurobarometer-Monitoring the level of financial literacy in the EU.

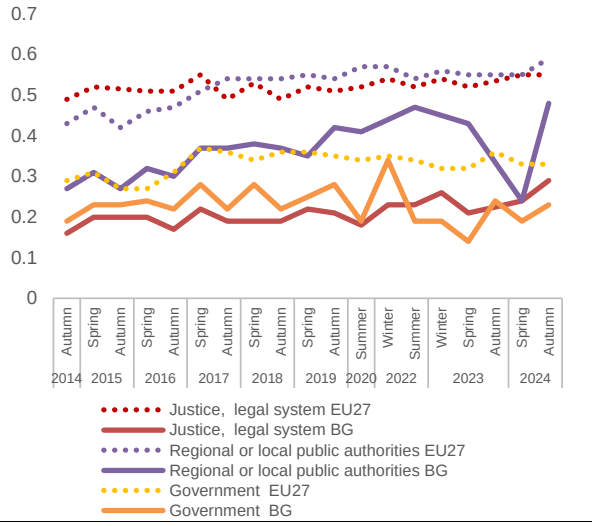
([120])For more, see MTF BSE International.

([121])See National Strategy for Financial Literacy and its Action Plan (2021-2025).

Bulgaria's institutional framework influences its competitiveness. Trust in public institutions is very low. Inconsistent regulatory practices, slow implementation of administrative simplification measures and quality of justice remain a challenge. Corruption is perceived as a problem for doing business in the country. Low skills and pay disparities in the public administration affect its productivity. Bulgaria has made notable progress in delivering digital public services to businesses. However, uptake by citizens remains low.

Public perceptions

Graph A6.1: **Trust in justice, regional / local authorities and in government**



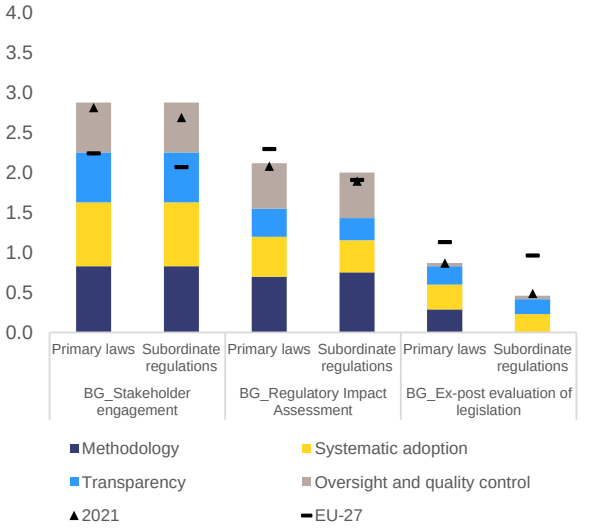
(1) EU27 from 2019; EU28 before
Source: Standard Eurobarometer surveys

Trust in Bulgaria's public institutions is far below the EU average (Graph A6.1). Although trust in local and regional governments is higher, their perceived quality continues to be rated the lowest in the EU ([122]). 46% of citizens believe that reducing bureaucracy would enhance trust in public administration (compared to the EU's 52%), 38% expect more transparency (compared to the EU's 44%), and 34% desire better-skilled civil servants (compared to the EU's 30%) ([123]).

Quality of legislation and regulatory simplification

Bulgaria's performance in drafting and evaluating legislation aligns with the EU average. The country has established a detailed methodology and set of rules for assessing impacts of both primary and secondary legislation. However, these practices are not consistently applied ([124]). There is also well-established practice for public consultations of government initiatives. Evaluations of existing laws however are relatively rare. In 2024, a series of measures were implemented to enhance strategic planning, monitor policy implementation, and utilize evidence, data, and innovative methods in policymaking. These measures complement IT investments for improved strategic planning under the national recovery and resilience plan. A newly adopted concept aims to strengthen regulatory governance by applying the regulatory standards at local level ([125]).

Graph A6.2: **Indicators of Regulatory Policy and Governance (iREG)**



Source: OECD (2025), Regulatory Policy Outlook 2025 and Better Regulation across the European Union 2025 (forthcoming).

([122]) Inforegio - European Quality of Government Index

([123]) Understanding Europeans' views on reform needs - April 2023 - - Eurobarometer survey

([124]) See 2024, Годишен доклад за оценка на въздействието през 2023 г. p. 6.

([125]) Концепция за развитие на регулаторната политика на Република България 2025-2027.

Table A6.1: **Selected indicators on administrative burden reduction and simplification**

	Ex ante impact assessment of legislation		Ex post evaluation of legislation	
When developing new legislation, regulators are required to …	Identify and assess the impacts of the baseline or 'do nothing' option.	○	Is required to consider the consistency of regulations and address areas of duplication.	●
	Identify and assess the impacts of alternative non-regulatory options.	●	Is required to contain an assessment of administrative burdens.	○
	Quantify administrative burdens of new regulations.	◑	Is required to contain an assessment of substantive compliance costs.	○
	Quantify substantial costs of compliance of new regulations.	◑	Compares the impact of the existing regulation to alternative options.	○
	Assess macroeconomic costs of new regulations.	◑	Periodic ex post evaluation of existing regulations is mandatory.	○
	Assess the level of compliance.	○	Government uses stock-flow linkage rules when introducing new regulations (e.g., one-in one-out).	○
	Identify and assess potential enforcement mechanisms.	○	A standing body has published an in-depth review of specific regulatory areas in the last 3 years.	●
			In the last 5 years, public stocktakes have invited businesses and citizens to assess the effectiveness, efficiency, and burdens of legislation.	○

● Yes / For all primary laws ◕ For major primary laws ◑ For some primary laws ○ No / Never

(1) This table presents a subset of iREG indicators focusing on regulatory costs. The indicators refer to primary legislation.
Source: OECD (2025), Regulatory Policy Outlook 2025 [https://doi.org/10.1787/56b60e39-en] and Better Regulation across the European Union 2025 (forthcoming).

Bulgaria has not consistently used tools for regulatory simplification such as in-depth reviews of specific regulatory areas and assessments of administrative burdens and substantive compliance costs when developing and evaluating legislation (Table A6.1). A government plan aims to reduce administrative burdens in the areas of health, education, energy, agriculture, trade, infrastructure, the environment and public safety ([126]). In early 2025, the government also committed to simplify administrative services related to 10 life events, connected to the EU Single Digital Gateway ([127]).

Efforts to improve the law-making practices in the parliament have not shown results yet. While parliament retains a leading role in legislative initiative (in 2024 80% of proposals were submitted by members of parliament) the share of impact assessments and public consultations of these remains extremely low ([128]). Only a small share of legislative proposals made use of evidence or assess alignment with EU legislation. Stakeholders have also reported problems with transparency of the Bulgarian parliament ([129]).

Social dialogue

The involvement of the social partners in national legislation and policymaking is institutionalised in the National Council for Tripartite Cooperation and in the sectoral, branch, regional and municipal councils for tripartite cooperation. All councils include the nationally represented trade unions and employers' organisations who are recognised in this capacity by the government in accordance with a special procedure laid down in the national labour legislation. The consultation of the National Council is required by law and covers legislative initiatives and secondary legislation on labour and issues directly related to labour, social security, as

([126]) План за намаляване на административната тежест

([127]) План за действие за внедряване на услуги на принципа „епизод от живота"

([128]) 2024. Изследване на законодателната дейност на 50-ото народно събрание

([129]) See 2024 Rule of Law Report, country chapter on Bulgaria, pp. 33-34.

well as issues related to the standard of living. ([130])

Overall, trade union membership has seen a decline in the last decades with some estimates putting it at 15% of the labour force.([131]) The influence of trade unions is further undermined by the low coverage of collective labour agreements. Employers generally prefer direct company level negotiations over sector-wide agreements, limiting the potential for broader wage improvements. Operation 'Social partnership', with a budget of approximately EUR 26.6 million, under the programme for Human Resources Development 2021-2027 co-funded by the ESF+ is supporting social partners, aiming to strengthen the social dialogue and increase collective bargaining.

Efficiency of selected administrative procedures

The OECD product market regulation indicators show that Bulgaria's licensing system is less burdensome than in the average EU-27 economy. However, there is still scope to continue adopting best practice. Although the government keeps an up-to-date inventory of all permits and licences required/issued to businesses by public bodies, the inventory is not available online for consultation. Also, there is no requirement for the government to regularly assess whether such licences and permits are still required or should be withdrawn (see also Annex 4). According to a Commission report on speeding up permit-granting procedures for renewable energy and related infrastructure projects ([132]) there is scope for further aligning national practices in Bulgaria with the guidance to support faster and shorter procedures for the licensing of renewable energy projects. Unlike 19 other EU Member States, Bulgaria does not have a dedicated institution for promoting pro-productivity policies. Furthermore, a significant number of independent and regulatory authorities are operating with an expired mandate ([133]).

Digital public services

Bulgaria has a strong legal framework for supporting online digital services and a well-developed e-government architecture. It has been working to digitalise its administrative registers, increase interoperability and enable the administrative transfer of data (once-only principle).

Only a small percentage of Bulgarian internet users engage with e-government services. At just 35.4% engagement, this is the second lowest in the EU and significantly below the EU average of 75% (Table A6.2) Reasons for this according to a national study from 2023, include distrust in electronic services and concerns about weak information security, lack of adequate computer skills, insufficient promotion of services. Moreover, insufficient digital inclusion of minorities and people living in remote areas is a further obstacle to online services. Bulgaria had an overall e-health maturity score of 77.2 out of 100 in 2023, close to the EU average of 79.1.

The national scheme for eID is still in development. However, regulatory changes introduced in 2023 are significantly improving the situation. As of 2023, 6.09% of Bulgarians had used one of the existing eID systems to access online services for private purposes within the past 12 months, compared to an EU average of 41.11%. Use of eID for accessing services provided by national public authorities or public

([130])For an analysis of the involvement of Bulgaria's social partners at national level in the European Semester and the Recovery and Resilience Facility, see Eurofound (2025), National-level social governance of the European Semester and the Recovery and Resilience Facility.

([131])See Развитие на синдикализма в историческа перспектива. Преглед на правния, политическия и социалния контекст на функциониране на съвременните синдикални организации – Конфедерация на независимите синдикати в България (КНСБ).

([132])European Commission: Directorate-General for Energy, *Monitoring the implementation of the Commission recommendation and guidance on speeding up permit-granting procedures for renewable energy and related infrastructure projects – Final report*, Publications Office of the European Union, 2025, link.

([133])See 2024 Rule of Law Report, country chapter on Bulgaria, pp. 31-32.

Table A6.2: **Key Digital Decade targets monitored through the Digital Economy and Society Index**

		Bulgaria			EU-27	Digital Decade target by 2030
		2022	2023	2024	2024	EU-27
Digitalisation of public services						
1	**Digital public services for citizens**	**59**	**60**	**67**	**79**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030
2	**Digital public services for businesses**	**76**	**81**	**92**	**85**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030
3	**Access to e-health records**	**na**	**77**	**77**	**79**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030

Source: State of the Digital Decade report 2024([135])

services was slightly lower at 5.36%, which is well below the EU average of 36.14%.

Bulgaria is developing the necessary infrastructure towards seamless, automated exchange of authentic documents and data across the EU. There are still additional steps to be taken by Bulgaria to become technically ready to connect to the Once-Only Technical System([134]), part of the EU Single Digital Gateway.

Civil service

Bulgaria's civil service continues to face difficulties in ensuring civil servants have sufficient skills. Enrolment of civil servants in adult learning is significantly below the EU average (BG 2.3%; EU 17.9%)([136]). The participation rate in compulsory induction training courses has continued to decline both among civil servants (from 49.1% in 2022 to 46.7% in 2023) and managers (46.3% in 2023 to 37% in 2022). In 2023, 36% of administrations had not earmarked any funding for training. On a more positive note, the total number of participants in professional training courses, including courses on digital skills had increased ([137]). The Institute for Public Administration has expanded its training catalogue to include digital skills, strategic planning and monitoring, public procurement, service delivery, etc. ([138]).

The attractiveness of the public administration as an employer is declining. This was demonstrated by a visible shift towards an older age profile in the civil service as of 2019 and a lower number of applications for vacancies published in 2023. About half of vacant posts in the administration were filled via internal mobility. The existing civil service traineeship scheme had not improved recruitment of young talent and was therefore replaced by a new programme for young jobseekers with a university education ([139]). The starting salary in the public administration is equal to the national minimal wage. There continue to be huge disparities in pay across administrations between persons with the same function and grade, despite several proposals to address the issue ([140]). Moreover, a national review showed that the current bonus system tended to inflate the number of vacant posts, this leaving more funds for top-ups from budget savings. Finally, although staff engagement is monitored ([141]), the results do not feed into consistent staff policies.

([134])European Commission, The Once Only Principle System: A breakthrough for the EU's Digital Single Market

([135])Digital Decade DESI indicators 2024

([136])Eurostat. Data to be updated and refernce to be included in April

([137])Reports on the status of the state administration for 2022 and 2023, https://strategy.bg/FileHandler.ashx?fileId=36619

([138])Annual report of the Institute for public administration, 2024, https://www.ipa.government.bg/sites/default/files/annualreport_ipa_24_fpi_final.pdf

([139])Програма "Старт в кариерата"

([140])Портал за обществени консултации

([141])Institute for Public Administration, Engagement barometer, https://www.ipa.government.bg/bg/publications#cbp=/bg/barometr-na-angazhiranostta-2024

Integrity

A far higher percentage of companies than the EU average consider corruption to be widespread and a problem when doing business, and there are concerns related to high-level corruption cases. In particular, 88% of companies consider that corruption is widespread (EU average 65%), while 57% consider that corruption is a problem when doing business (EU average 36%) ([142]). Moreover, only 14% of companies believe that people and businesses caught for bribing a senior official are appropriately punished (EU average 31%) ([143]). There has been no progress yet in establishing a robust track-record of high-level corruption cases or in work to strengthen the legislative framework in the area of foreign bribery in line with OECD recommendations. Following the reform of Bulgaria's Commission for Counteracting Corruption and Illegal Assets Forfeiture, the collegial leadership of the Anti-Corruption Commission has not yet been appointed and its performance remains to be assessed ([144]). Moreover, there are continued gaps in the integrity framework for persons in top executive functions, with no clear integrity standards for the government and no appropriate sanctioning mechanism. The government has started work on a comprehensive code of conduct ([145]).

Public procurement remains an area at high risk of corruption in Bulgaria. 36% of companies (EU average 27%) think that corruption has prevented them from winning a public tender or a public procurement contract in practice in the last three years ([146]). Bulgarian public procurement legislation was amended in October 2023 to improve transparency and integrity. Investigations and legal proceedings concerning Bulgarian citizenship previously granted under the country's investor citizenship scheme, abolished in 2022, continued in 2023. Even after their abolition, investor citizenship schemes also continue to expose a high-risk of corruption, as new allegations emerged, including corruption and fraud to avoid proper due diligence in the granting of citizenship. ([147])

Bulgaria has not implemented a public register for lobbyists. However, work on legislation to make lobbying more transparent has started and rules on 'revolving doors' have been reformed. The government has prepared a concept paper and set up a working group to prepare legislation aiming to define lobbying and set up a transparency register ([148]). This could help to improve transparency in corporate lobbying.

Justice

The justice system is performing efficiently overall. For the first time, Bulgaria was able to collect and present disaggregated data on the efficiency of first instance civil and commercial proceedings. The estimated time to resolve such cases was 186 days in 2023. The estimated time to resolve administrative cases at first instance has decreased from 129 days in 2022 to 121 days in 2023. The justice system is faced with some challenges regarding digitalisation. Despite a slight improvement, digital tools are scarcely used in courts. Concerns regarding judicial independence persist. In December 2023, a comprehensive constitutional reform was adopted to improve judicial independence and address long-standing concerns. However, on 26 July 2024, Bulgaria's Constitutional Court declared a significant part of the constitutional amendments unconstitutional. Therefore, the concerns regarding the composition and functioning of the Supreme Judicial Council persist. In addition, long-term secondments of judges are widely used to fill vacant positions. Moreover, the risk of political influence of the Inspectorate to the Supreme Judicial Council could

([142])Flash Eurobarometer 543 on businesses' attitudes towards corruption in the EU (2024).

([143])Ibid.

([144])See 2024 Rule of Law Report, country chapter on Bulgaria, pp. 16-18.

([145])Ibid., pp. 21-22.

([146])Flash Eurobarometer 543 on businesses' attitudes towards corruption in the EU (2024).

([147])See 2024 Rule of Law Report, country chapter on Bulgaria, pp. 25-26.

([148])Ibid., pp. 23-24.

be avoided, in particular by involving judicial bodies in the selection of its members ([149]).

([149])For more detailed analysis of the performance of the justice system in Bulgaria, see the upcoming 2025 EU Justice Scoreboard and the 2024 Rule of Law Report.

Bulgaria faces significant challenges regarding its clean industry transition and climate mitigation: to date, it has limited manufacturing capacity for net-zero technologies, while obstacles remain in streamlining industrial permitting. Its reliance on imports for many critical raw materials and a low circular material use rate threaten its industrial autonomy. Despite some progress in decarbonizing, its industry has remained greenhouse gas emissions intensive so far, and air quality is a significant concern. Furthermore, Bulgaria is lagging behind in waste management. Despite Bulgaria's reliance landfilling, a positive development is that Bulgaria closed its substandard landfills. This annex reviews the areas in need of urgent attention in Belgium's clean industry transition and climate mitigation, looking at different dimensions.

Strategic autonomy and technology for the green transition

Net zero industry

Bulgaria's manufacturing capacity across all net zero technologies is very limited, despite plans to develop the batteries sector ([150]). Some recent investments in battery and storage technologies include EUR 1.1 billion of planned investment by Belgium-based ABEE for a research and development centre, a gigafactory and a recycling centre. The South African company solar MD plans to invest EUR 1.53 million for a battery factory in Bulgaria.

Bulgaria's scale up of clean tech manufacturing capacity is supported by only a few and high-level policy frameworks. Bulgaria's draft national energy and climate plan provides a strategy for stimulating the manufacturing of net-zero technologies. The proposed measures include: improving the conditions for investment in net zero technologies; improving the permitting procedures for strategic net zero technologies; promoting the purchase of net zero technologies with financial compensation: building a skilled workforce; and establishing industrial parks. In addition, Bulgaria's Ministry of the Economy and Industry is currently working on an industrial strategy for the processing and mining industries. Lastly, relevant skills programmes provide vocational training that could potentially benefit a range of net-zero technologies.

The procedure for industrial permitting can vary in length depending on the location and the authorities involved. In fact, the time needed to obtain a construction permit for net-zero manufacturing can vary between six months and three years. So far, Bulgaria has not established a one-stop shop to streamline the process. The Investment Promotion Act offers support to projects that meet specific requirements for investment size and job creation thresholds. Further incentives for such projects could be beneficial: for example, faster administrative procedures, financial assistance and tax relief. While this measure is not specifically targeted at net zero technologies, net zero projects can also benefit from these favourable conditions ([151]).

Transforming the car industry

The automotive sector is one of the fastest-growing sectors in Bulgaria with an average annual growth in production of 8.6%. 80% of all sensors of European cars were made in Bulgaria. The sector includes not only plants for vehicle parts but also 38 research and development centres with innovation capacity for software and design development. At the same time, the automotive industry is heavily dependent on other countries, such as Germany.

Bulgaria's transition to e-vehicle (EV) use and EV charging infrastructure is progressing. In 2023, the stock of cars with alternative fuel engines was the highest among EU Member States, at 14.3% compared to an EU average of 4.6%. The public recharging infrastructure is expected to continue growing, reaching an estimated 1 543 charging stations in

([150])European Commission: Directorate-General for Energy, 'The net-zero manufacturing industry landscape across the Member States 2025', https://data.europa.eu/doi/10.2833/2181110.

([151])European Commission: Directorate-General for Energy, 2025.

2024, according to Statista Market Insights. This represents a significant expansion of the country's charging network, which has already seen rapid growth in previous years. However, legislative and infrastructure challenges remain, for example, insufficient grid capacity and uneven geographical distribution of charging infrastructure, including fast chargers ([152]).

Critical raw materials

Mining and metallurgy play a crucial role in Bulgaria's industrial sector. The extraction and recycling of critical raw materials is governed by the 2021-2028 national waste management plan, the 2022-2027 circular economy transition strategy and the related strategy action plan (Decision No 832 of the Council of Ministers of 26 October 2022). One of the objectives of the strategy is to strengthen Bulgaria's position as a supplier of critical raw materials in the EU. This is to be supported by a planned national critical raw materials strategy and an act on critical raw materials.

Bulgaria depends on imports for many of the critical raw materials needed for the development of net-zero industry. Bulgaria produces critical raw materials such as baryte, bismuth and copper. It ranks among the top three EU producers of vermiculite, gold, kaolin, cadmium, lead, and ornamental and building stones ([153]). A significant number of other raw materials need to be imported. For example, high-value imports include copper (from Indonesia, Brazil, Georgia, Turkey, Peru, Chile and Panama), iron and non-alloy steel (mainly from Ukraine); aluminium (mainly from Turkey); and fertilisers (from Egypt, and Georgia). Bulgaria's level of import dependency for raw materials ([154]) is below the EU average (0.19 vs 0.23) and on a par with that of Romania and Lithuania ([155]). To become more raw materials independent, Bulgaria could further diversity its supply sources. The circular use of materials is also key to reducing the dependence on imports. In this regard, over the last decade, Bulgaria's circular material use rate (4.9%) has been constantly way below the EU average (11.8%), indicating a significant potential for improvement.

Bulgaria's mining and metallurgical industries have the potential to contribute to the EU's raw material independence and meet some of its critical raw material needs. According to the Bulgarian Association of the Metallurgical Industry, Bulgaria's polymetallic deposits contain primary metals and other elements which are processed into concentrates or remain in mining waste. The metallurgical industry processes over 1.6 million tonnes of non-ferrous metal ore concentrates and waste products, making effective use of primary elements and accompanying metals.

Bulgaria could take advantage of the Critical Raw Materials Act in the production of primary and secondary non-ferrous metals. However, Bulgaria has fallen behind on some obligations under the Act, such as the obligation to prepare a database on critical raw materials and establish an information and project support unit. The Bulgarian Academy of Sciences has been tasked with the establishment of a national scientific programme to support the development of critical and strategic raw materials, but the long implementation period may diminish potential benefits ([156]).

Climate mitigation

Industry decarbonisation

Bulgaria's manufacturing sector emits much more greenhouse gases per unit produce than other EU Member States. Around 18% of Bulgaria's total greenhouse emissions come from

([152])SeeNext, 'Automotive Industry in Southeast Europe, Powering up for an electric future", 2024.

([153])European Commission, Raw Materials Information System (RMIS) – Country Profile - Bulgaria

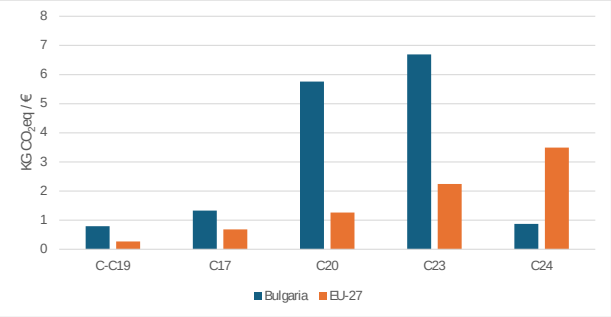
([154])The concentration index score shows how much a country relies on a number of partner countries for a basket of critical raw materials. Higher values indicate higher import dependency: a score of 0.25 indicates a high dependency, 0.15-0.25 indicates a moderate degree, and a score below 0.15 indicates low import dependency.

([155])European Commission, 2025 Single Market and Competitiveness Scoreboard.

([156])Bulgarian Association of the Metallurgical Industry, https://bami.bg/en/

manufacturing ([157]). In 2022, this sector emitted 790 g CO_2eq of greenhouse gases per euro of gross value added (GVA), nearly three times the EU average (270 g), ranking it second highest among EU Members. The emissions intensity of Bulgaria's manufacturing sector has declined by 21% since 2017, similar to the EU average decrease. The shares of Bulgaria's manufacturing emissions coming from energy and non-energy-related sources in 2023 (the latter primarily coming from industrial processes) are relatively equal, while in the EU overall, energy-related emissions dominate, with 57%.

Graph A7.1: **GHG emission intensity of manufacturing and energy-intensive sectors, 2022**

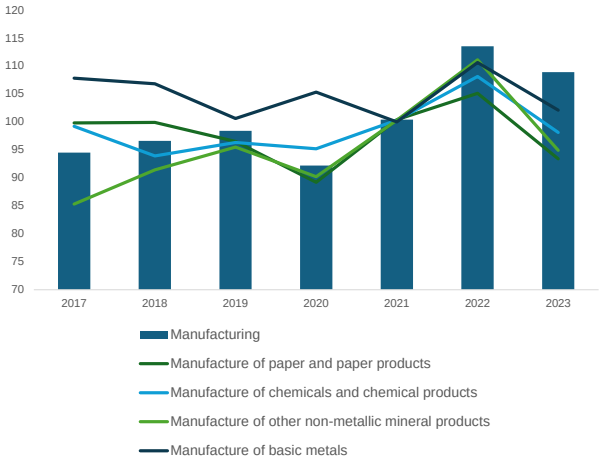


Source: Eurostat.

The energy-related greenhouse gas emissions intensity of manufacturing has increased recently. Between, 2017 and 2022, the intensity of greenhouse emissions from industrial processes and product use declined by 24%, more than in the EU as a whole, where it decreased by 19%. At the same time, the energy-related greenhouse gas emissions intensity of Bulgaria's manufacturing industry increased by 6%, while the EU overall saw a decrease of 11% ([158]).

The energy intensity of manufacturing in Bulgaria decreased by about 31% between 2017 and 2022, to 2.45 GWh/EUR of GVA, though it remains much higher than the EU average, 1.05 GWh. The share of electricity and renewables in final energy consumption of the manufacturing industry has remained at around 39%. A sustained shift from fossil fuels to electricity and renewables is yet to build momentum.

Graph A7.2: **Manufacturing industry production: total and selected sectors, index (2021 = 100), 2017-2023**



Source: Eurostat.

Bulgaria's energy-intensive industries are greenhouse gas emissions intensive. Energy-intensive industries ([159]) accounted for 17% of Bulgaria's total manufacturing GVA in 2022, the third highest share in the EU. Among these, the manufacturing of chemicals and chemical products (which accounts for 4.6% of manufacturing production) recorded the highest emission intensity of production in the EU, with 5.8 kg CO2eq/EUR of GVA.

([157]) In 2023. Manufacturing includes all divisions of the "C" section of the NACE Rev. 2 statistical classification of economic activities. In the remainder of this section, unless indicated otherwise, data on manufacturing refer to the divisions of the NACE section C excluding division C19 (manufacture of coke and refined petroleum products), and the year 2022. The source of all data in this section is Eurostat; data following the UNFCCC Common Reporting Framework (CRF) are from the European Environment Agency (EEA), republished by Eurostat.

([158]) For the GHG emissions intensity of GVA related to energy use and industrial processes and product use respectively, GHG emissions are from inventory data in line with the UNFCCC Common Reporting Format (CRF), notably referring to the source sectors CRF1.A.2 – fuel combustion in manufacturing industries and construction and CRF2 – industrial processes and product use. The CRF1.A.2 data broadly correspond to the NACE C and E sectors, excluding C-19. GVA data (in the denominator for both intensities) are aligned with this sectoral coverage. Therefore, they are not fully consistent with the data referred to in other part of this section.

([159]) Notably, the manufacture of paper and paper products (NACE division C17), of chemicals and chemical products (C20), "other" non-metallic mineral products (C23; this division includes manufacturing activities related to a single substance of mineral origin, such as glass, ceramic products, tiles, and cement and plaster), and basic metals (C24). To date, these industries are energy-intensive – i.e. consuming much energy both on site and/or in the form of purchased electricity – and greenhouse gas emissions intensive, in various combinations.

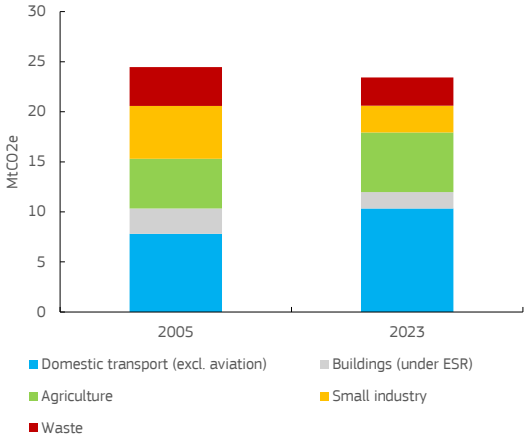
Bulgaria's energy-intensive industries experienced a contraction of production recently. Bulgaria's industrial energy prices are lower than average EU prices, between 2021 and 2024 ([160]), production in the paper, non-metallic mineral products, and basic metals sectors still fell by about 5%-10% (see Graph A7.2).

Bulgaria has started putting in place a framework to support the decarbonisation of industry, but more needs to be done. Bulgaria has put forward legislation facilitating the deployment of renewables and storage; measures to improve energy efficiency of both residential and manufacturing buildings and pilot projects on renewable hydrogen. This is also underlined in the objectives of the integrated national energy and climate plans as well as key outcomes of the territorial just transition plans. However, further efforts are needed to support the decarbonisation of manufacturing production, particularly in energy-intensive sectors. Preparations have started on the development of a national industrial strategy which will include elements related to industrial decarbonisation, such as the reduction of the carbon footprint, resource and energy efficiency, as well as net zero emissions industry analysis.

Reduction of emissions in the effort sharing sectors

Bulgaria is projected to reach its 2030 target for the effort sharing sectors if it adopts and implements the planned climate mitigation measures ([161]). GHG emissions from Bulgaria's effort-sharing sectors in 2023 are expected to have been 4.7 % above those of 2005. By 2030, additional policies currently considered by Bulgaria are projected to achieve a reduction of 11.06 %. Hence, Bulgaria is projected to overachieve its effort sharing target of a 10 % reduction, by 1.06 pps ([162]), if it adopts and implements those measures.

Graph A7.3: **Greenhouse gas emissions in the effort sharing sectors, 2005 and 2023**



Source: European Environment Agency

Swift action on decarbonising transport appears particularly exigent in Bulgaria. Between 2005 and 2023, greenhouse gas emissions from road transport increased by 32% in Bulgaria, while they decreased by 5% in the EU overall. Speeding up climate mitigation in this sector would help protect households, businesses and transport users in Bulgaria from the impact of the forthcoming carbon price.

Sustainable industry

Circular economy transition

Despite some positive trends, Bulgaria lags behind in its circular transition. The circular use of materials in Bulgaria reached a peak of 5.8% in 2020 followed by a decline until 2022, and then an increase to 4.9% in 2023. However, this is still well below the EU average of 11.8%. With EUR 0.38 generated per kg of material consumed in 2023, resource productivity in Bulgaria is well below the EU average of EUR 2.22 per kg.

There is scope for Bulgaria to implement additional policies to increase circularity. In October 2022, Bulgaria adopted its strategy and

([160])For a detailed analysis of energy prices, see Annex 8 on the affordable energy transition.

([161])The national greenhouse gas emission reduction target is set out in Regulation (EU) 2023/857 (the Effort Sharing Regulation). It applies jointly to buildings (heating and cooling); road transport, agriculture; waste; and small industry (known as the effort sharing sectors).

([162])The emissions from effort sharing sectors for 2023 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Projections on the impact of current policies ('with existing measures', WEM) and additional policies ('with additional measures', WAM) as per Bulgaria's final updated national energy and climate plan.

action plan for the transition to a circular economy for 2022–2027. The strategy and the accompanying action plan were adopted under the wider umbrella of Bulgaria's national development programme for 2030, 'Bulgaria 2030'. The national development programme shifted the focus from landfilling to prevention, reuse, recycling and recovery of waste. The 2021-2028 waste management plan envisages the implementation of measures included in the circular economy strategy for products containing critical raw materials. The Public Procurement Law has been amended with the inclusion of minimum environmental requirements in the tender documentation for all public contracting authorities. Finally, Council of Ministers' Decision No 508 of 18 July 2024 adopted the national scientific programme 'Critical and strategic raw materials for green transition and sustainable development', supporting research to explore, extract in an environmentally sound manner and process CRMs and strategic raw materials from various sources, including waste originating from processing primary raw materials and from secondary resources (from recycling).

Bulgaria also lags behind in waste management. The total amount of waste generated in Bulgaria has decreased over the last 12 years, with 488 kg of waste produced per capita in 2022. This trend is primarily driven by decreases in the largest waste categories, namely mineral waste from mining and quarrying. If these categories are excluded, there is an upward trend in waste generation. While total waste generation has decoupled from economic growth, total waste excluding major mineral wastes has increased more than the economy as measured by GDP growth. Bulgaria still relies strongly on landfilling even though the landfilling rate decreased significantly between 2010 and 2022 reaching 54% in 2022. Municipal waste incineration plays a minor role in Bulgaria, as only 3% of the generated municipal waste was incinerated in 2022.

Current investment in the circular transition is insufficient. To meet its environmental objectives on the circular economy and waste, Bulgaria needs to increase circular economy investment by an estimated EUR 126 million per year, with an additional EUR 21 million for waste management action. To close the circular economy investment gap, EUR 33 million is needed for recent initiatives, such as eco-design for sustainable products; packaging and packaging waste; labelling and digital tools; critical raw materials recycling; and measures proposed under the amended Waste Framework Directive. A further EUR 93 million is needed to unlock Bulgaria circular economy potential ([163]).

Zero-pollution / clean air

Bulgaria has made some progress in reducing air pollution, but further progress is needed.

Air quality in some parts of Bulgaria continues to give cause for concern. In 2023, exceedances above the limit values set by the Ambient Air Quality Directive were registered for nitrogen dioxide in one air quality zone and for particulate matter (PM_{10}) in one air quality zone in Bulgaria. Furthermore, in one air quality zone, the target values for ozone concentration were not met.

Bulgaria is above the EU average for releases of pollutant emissions to air. Bulgaria has not reduced emissions significantly in the context of the national air pollution control programme. The latest reported data show continued non-compliance with the 2020-2029 emission reduction commitment for NH_3. Bulgaria is also not on track to meet emission reduction commitments for 2030 onwards for non-methane volatile organic compounds. Based on the latest data, Bulgaria has made some progress in achieving compliance with EU air quality standards and maintaining downward emission trends. However, exceedances above limit values and target values remain for NO_2, PM_{10} and ozone. Since 2019, downward emission trends have been reported only for NH_3 and $PM_{2.5}$, for NH_3 though levels are still above those in 2005.

The costs of pollution remain high. The latest available annual estimates (for 2022) by the European Environment Agency for Bulgaria attribute 9 000 deaths each year (or 86 000 years of life lost (YLL)) to fine particulate matter; 1 500 deaths each year (or 14 100 YLL) to nitrogen dioxide; and 930 deaths each year (or 9 000 YLL) to ozone. For 2022, about 3 800 deaths per year were attributed to fine particulate matter pollution; 450 deaths to nitrogen dioxide, and 980 to ozone.

([163])European Commission, DG Environment, *Environmental investment needs & gaps assessment programme*, 2025 update. Expressed in 2022 prices.

To meet its environmental objectives on pollution prevention and control (towards zero pollution), Bulgaria needs to provide an additional EUR 406 million per year (0.48% of GDP), mostly for measures on clean air ([164]).

([164])European Commission, DG Environment, *Environmental investment needs & gaps assessment programme*, 2025 update. Expressed in 2022 prices.

Table A7.1: **Key clean industry and climate mitigation indicators: Bulgaria**

Strategic autonomy and technology for the green transition				Bulgaria						EU-27	
Net zero industry											
Operational manufacturing capacity 2023											
- Solar PV (c: cell, w: wafer, m: module), MW	75-125 (m)				- Electrolyzer, MW		45931				
- Wind (b: blade, t: turbine, n: nacelle), MW	-				- battery, MWh		-				
Automotive industry transformation	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**			**2018**	**2021**
Motorisation rate (passenger cars per 1000 inhabitants), %	410	416	431	439	437	449	466	↗		539	561
New zero-emission vehicles, electricity motor, %	0.05	0.51	0.57	1.36	2.25	3.57	4.68	↗		1.03	8.96
Critical raw materials	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**			**2018**	**2021**
Material import dependency, %		15.7	16.4	16.0	15.3	17.4	16.1	↘		24.2	22.6
Climate mitigation				Bulgaria				Trend		EU-27	
Industry decarbonisation	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**			**2017**	**2022**
GHG emissions intensity of manufacturing production, kg/€	1	1.01	0.91	0.93	1.05	0.79	0.7	↘		0.34	0.27
Share of energy-related emissions in industrial GHG emissions	64.9	59.3	53.5	52.8	51.8	49.8	51.2	↘		44.8	42.5
Energy-related GHG emissions intensity of manufacturing and construction, kg/€	327.7	378.9	354.7	381.0	446.3	346.1	-	↗		158.4	132.9
Share of electricity and renewables in final energy consumption in manufacturing, %	37.2	38.2	39.4	39.5	36.9	39.3	39.8	↗		43.3	44.2
Energy intensity of manufacturing, GWh/€	3.74	3.55	3.35	3.49	3.82	2.88	2.45	↘		1.29	1.09
Share of energy-intensive industries in manufacturing production						17.0					7.3
GHG emissions intensity of production in sector [...], kg/€											
- paper and paper products (NACE C-17)	1.20	1.16	1.00	1.07	1.09	1.33	1.49	-		0.73	0.68
- chemicals and chemical products (NACE C20)	6.02	7.50	5.39	5.39	17.76	5.76	5.28	-		1.25	1.26
- other non-metallic mineral products (NACE C23)	4.73	4.24	3.81	5.60	5.59	6.69	5.11	-		2.53	2.24
- basic metals (NACE C24)	1.03	1.00	1.23	1.16	1.06	0.87	1.00	-		2.79	3.49
Reduction of effort sharing emissions		**2018**	**2019**	**2020**	**2021**	**2022**	**2023**			**2018**	**2023**
GHG emission reductions relative to base year, %					12.6	9.9	4.9				
- domestic road transport		23.5	25.5	18.1	27.1	27.2	32.5	↗		1.4	5.2
- buildings		-25.6	-28.6	-28.7	-17.6	-35.4	-35.4	↘		21.4	32.9
	2005				**2021**	**2022**	**2023**	**Target**		**WEM**	**WAM**
Effort sharing: GHG emissions, Mt; target, gap, %	22.3				25.1	24.5	23.4	-10.0		-19.7	1.06
Sustainable industry				Bulgaria				Trend		EU-27	
Circular economy transition		**2018**	**2019**	**2020**	**2021**	**2022**	**2023**			**2018**	**2021**
Material footprint, tonnes per person		18.4	20.7	20.7	21.6	24.2	21.3	↘		14.7	15.0
Circular material use rate, %		2.4	4.0	5.8	4.3	3.0	4.9	↘		11.6	11.1
Resource productivity, €/kg		0.4	0.4	0.4	0.5	0.5	0.6	↗		2.1	2.3
Zero pollution industry											
Years of life lost due to PM2.5, per 100,000 inhabitants		1,946	1,641	1,683	1,571	1,729	-	↗		702	571
Air pollution damage cost intensity, per thousand € of GVA					278.4						27.5
Water pollution intensity, kg weighted by human factors per bn € GVA						2.6					0.9

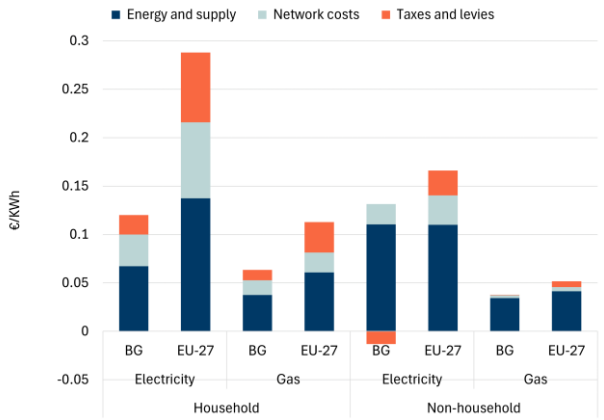
Source: **Net zero industry:** European Commission: The net-zero manufacturing industry landscape across Member States: final report, 2025. **Automotive industry transformation:** Eurostat. **Critical raw materials:** Eurostat. **Climate mitigation:** See footnotes in the "climate mitigation" section; reduction of effort sharing emissions: EEA greenhouse gases data viewer; European Commission, Climate Action Progress Report, 2024. **Sustainable industry:** Years of life lost due to PM2.5: Eurostat and EEA, Harm to human health from air pollution in Europe: burden of disease status, 2024. Air pollution damage: EEA, EU large industry air pollution damage costs intensity, 2024. Emissions covered: As, benzene, Cd, Cr, Hg, NH3, Ni, NMVOC, NOX, Pb, dioxins, PM10, PAH, SOX. Water pollution intensity: EEA, EU large industry water pollution intensity, 2024. Releases into water covered from cadmium, lead, mercury, nickel. Other indicators: Eurostat.

This annex outlines the progress made and the ongoing challenges faced in enhancing energy competitiveness and affordability, while advancing the transition to net zero in Bulgaria. It examines the measures and targets proposed in the final updates to the national energy and climate plans (NECPs) for 2030.

Bulgaria's electricity mix continues to rely on a high share of fossil fuels, primarily coal. The country experienced high electricity prices in 2024 that were partly due to the low flexibility of the electricity system and delayed electricity market liberalisation as well as limited interconnectivity between South-Eastern and Central Europe. Bulgaria has made significant steps in diversifying away from Russian fuels but became the only entry point for Russian pipeline gas into the EU following the expiry of the Ukraine-Russia agreement for transit of gas.

Energy prices and costs

Graph A8.1: **Retail energy price components for household and non-household consumers, 2024**

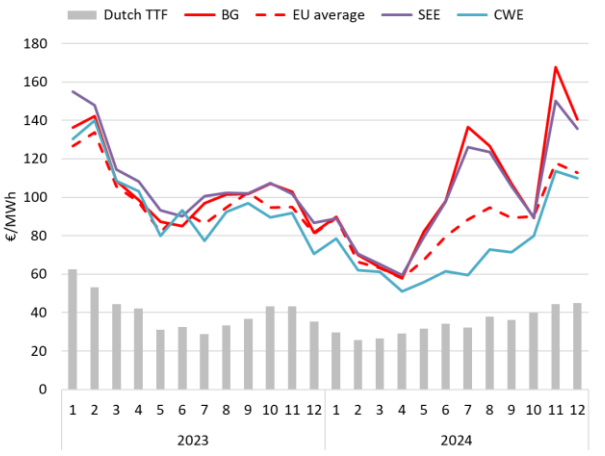


(i) For household consumers, consumption band is DC for electricity and D2 for gas. Taxes and levies are shown including VAT.
(ii) For non-household consumers, consumption band is ID for electricity and I4 for gas. Taxes and levies are shown excluding VAT and recoverable charges, as these are typically recovered by businesses.
Source: Eurostat

Bulgaria's electricity prices for households have slightly increased in 2024 but remain the second lowest in the EU. Gas prices have slightly increased but are still among the lowest in the EU. Price regulation by the National Energy Authority was in force throughout 2024. The share of taxes stands at 17% for both electricity and gas prices which is significantly lower than the EU average of 25% for electricity and 27% for gas.

Retail electricity and gas prices for industrial consumers have declined in 2024 by 14% and 27% respectively and are among the lowest in the EU. Fiscal intervention supports electricity for non-household consumers, reducing total prices by more than 11%.

Graph A8.2: **Monthly average day-ahead wholesale electricity prices and European benchmark natural gas prices (Dutch TTF)**



(i) the Title Transfer Facility (TTF) is a virtual trading point for natural gas in the Netherlands. It serves as the primary benchmark for European natural gas prices.
(ii) CWE and SEE respectively provide average prices in the central-western European (Belgium, France, Germany, Luxembourg, the Netherlands and Austria) and south-eastern European (Bulgaria, Greece and Croatia) markets.
Source: S&P Platts and ENTSO-E

With an average of EUR 102/MWh in 2024 ([165]), Bulgaria had the fourth-highest wholesale electricity prices in the EU; and, while prices in Bulgaria declined early in the year amid falling natural gas costs,

([165])Fraunhofer (ENTSO-E data).

they surged during the spring/summer and again in the winter, diverging from Central European markets. This decorrelation was driven by factors affecting both consumption and generation. Prolonged and hotter summer heatwaves and a colder winter in the region led to higher consumption (+2% in 2024). The supply-demand gap was exacerbated by lower hydropower and wind output (-6% ([166]) and -9% in 2024) due to the meteorological conditions; diminished nuclear generation due to malfunctions (-4%); lower coal output (-32%); limited non-fossil flexibility. This gap was mainly covered by higher imports, particularly from Greece, Romania and Türkiye, where costly natural gas-fired generation was ramped up, especially during peak demand hours. Consequently (and more than in 2023), these conditions resulted in concentrated price spikes in evening hours (18h-21h) when solar output declined, and demand increased (especially during the summer). However, average daytime hourly prices were lower than in 2023, probably due to the uptake of solar output in Bulgaria.

Flexibility and electricity grids

The widening price gaps between the South- East Europe ([167]) and CORE capacity calculation regions (CCRs) observed during the summer also highlighted the limited cross-border capacity available for trade. Bulgaria is in the South-East Europe CCR for market-coupling. Electricity flows in this part of Europe are influenced by exchanges in nearby bidding zones, including in the Western Balkan countries ([168]). The Bulgaria-Greece and Bulgaria-Romania borders are market-coupled, and trade levels were consistently high in 2023. Member States should ensure that a minimum of 70% of technical cross-border capacity is available for trading. Overall, this capacity reached satisfactory levels in Bulgaria, but the Bulgarian Transmission System Operator (TSO) requested limitations due to the absence of sufficient congestion management measures.

Bulgaria has to complete the liberalisation of its wholesale and retail electricity markets. The legislation to liberalise the wholesale market has been adopted, but its entry into force has been postponed from July 2024 to July 2025. A public supply obligation was awarded to the state-owned coal power plant Maritza East II without a competitive tender in June 2024 and was subsequently amended in December 2024 to increase further the amount of electricity supplied. Bulgaria has taken measures to liberalise its balancing market for electricity and joined the PICASSO balancing platform in February 2025. Until 31 March 2025 a state-aid scheme offsets industry's electricity prices above 90 EUR/MWh. The scheme is funded by collecting the revenues of inframarginal electricity producers above a technology-specific threshold. The scheme may deter long-term contracts and investment in energy production and undermines incentives for energy efficiency and flexibility in the private sector.

The expansion of Bulgaria's cross-border interconnection capacity will, along with the reinforcement of its national grid, enable Bulgaria to meet rising energy demand, integrate renewable energy production more effectively and enhance grid flexibility. The Nea Santa interconnector between Greece and Bulgaria became operational in June 2023. Bulgaria has achieved the 15% interconnection target for 2030 and reports that it already exceeded 20% in 2024 ([169]). Under its recovery and resilience plan (RRP), Bulgaria will enable its electricity transmission system to integrate a cumulative new 4 500 MW of production capacity from

([166])ENTSO-E.

([167])South-East Europe is a capacity calculation region (CCR) made up of Bulgaria, Greece and Romania. A CCR is a group of countries that calculate cross-border electricity trade flows together.

([168])The process of integrating them into the EU's single market via market coupling is ongoing.

([169])NECP, p. 328.

renewable sources by 31 March 2026 and a cumulative 1 200 MW of additional net interconnection capacity with Romania and Greece by 30 June 2025. Prioritised implementation of the Project of Common Interest Carmen Smart Grid will reinforce cross-border TSO-TSO cooperation and data-sharing; enhance TSO-DSO cooperation; invest in grid expansion; increase capacity for integration of new renewables; and improve grid stability, security and flexibility.

Bulgaria has made efforts to facilitate permitting for infrastructure projects but can take further steps to streamline procedures and improve the capacity of local administrations. Bulgaria applies the existing legal framework to all projects, including projects of common interest. Specific legislation is not in place on new types of energy projects such as smart electricity and gas grids, electrolysers, hydrogen and carbon dioxide. Bulgaria should fully digitalise permitting procedures; accelerate decision-making and consent-obtaining processes; and improve the effectiveness of public participation. Bulgaria should continue maturing its hydrogen infrastructure planning and realisation of the interconnection with Greece (a project of common interest and a priority investment under the CESEC High-Level Group).

In light of remaining challenges (especially high electricity prices) Bulgaria needs to take steps to support non-fossil flexibility. One turbine of the Chaira Hydro-Pump Storage Power Plant was repaired in 2024, bringing back 170 MW of flexible generation. Bulgaria is exploring solutions to repair the other three turbines by 2026 in order to restore the power plant's full capacity of 800 MW. Under its RRP, Bulgaria will by 2026 deploy at least 350 MW of electricity storage coupled with renewable energy production (C4.16) and at least 3000 MWh of grid-scale battery storage systems (C4.18). Bulgaria needs to improve the regulatory and technical framework for the participation of non-fossil flexibility such as demand response and storage in all wholesale markets. Bulgaria registered 11 instances of negative prices on the day-ahead market ([170]).

Bulgaria could do more to empower consumers by removing barriers to demand response, energy communities, dynamic pricing and smart grids. The roll-out of smart meters is still below 10%. Together with fully regulated household retail tariffs, this hinders the introduction of dynamic offers. A national framework for renewable and citizen energy communities has existed since 2023. However, the fact that only three energy communities are registered in Bulgaria underlines the scope for further policy action to remove barriers and improve the attractiveness of these regulatory opportunities.

In 2023, electricity accounted for 27.4% of Bulgaria's final energy consumption (FEC) (above the EU average of 22.9%) and this share has slightly increased in the last decade ([171]). Electricity accounted for 51.7% and 31.9% of households' and industry's FEC respectively (see also the Effective Institutional Framework Annex). For the transport sector, this share remained negligible at 1.0%. Further electrification across sectors will contribute to the cost-effective decarbonisation of the economy and improve access to affordable renewable generation.

Renewables and long-term contracts

Installed renewables capacity in Bulgaria grew by 16% in 2024, the total renewable energy capacity thus reached 7177 MW (see Graph X). The deployment of solar slowed down compared to previous years reaching a total installed capacity of 3908 MW in 2024 (+1000 MW, a 34 % increase compared to 2023). In

([170]) ACER, Occurrences of day-ahead negative prices in EU bidding zones – 2023.

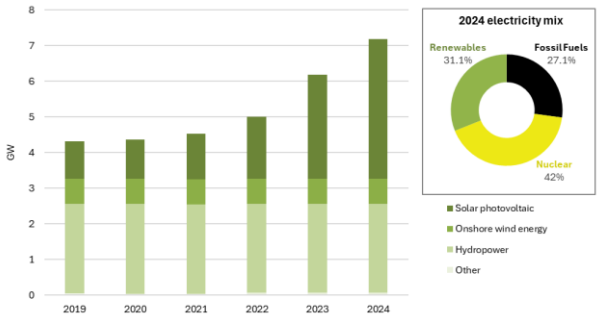
([171]) The CAGR (compound annual growth rate) was 0.0% between 2013 and 2023. The minimum/maximum shares were 25.9% and 27.4% respectively.

contrast, wind installed capacity in Bulgaria stagnated at 704 MW since 2019 ([172]).

Renewable energy sources (RES) accounted for 31% of Bulgaria's electricity generation in 2024 (the EU's overall RES share was 47% ([173]). Bulgaria's 2030 target for renewable energy in its NECP is set at 34.96%, exceeding the ambition set by the Renewable Energy Directive (33%). Investment in grid capacity (including distribution) and storage is needed in order to facilitate the access of renewables to the grid.

Bulgaria took steps to better coordinate permitting for renewable projects and to make it simpler and faster, but there is still room for improvement in administrative capacity, streamlined procedures and digitalisation. Bulgaria made progress in aligning national permitting legislation on renewables with Commission Recommendation EU 2024/1343. Changes in the Renewable Energy Act and a new ordinance ([174]) of the regulator accelerated permit-granting and decreased administrative burdens for renewable projects (including energy storage). A presumption of overriding public interest for renewable energy projects does not exist in Bulgarian legislation. Bulgaria has not outlined measures to increase the visibility of renewable projects. There is limited use of power purchase agreements for renewable energy.

Graph A8.3: **Bulgaria's installed renewable capacity (left) and electricity generation mix (right)**



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

Energy efficiency

Energy efficiency gains have improved in Bulgaria, but there is still large untapped potential. In 2023, primary energy consumption (PEC) decreased by 12.5% to 16.58 Mtoe. Final energy consumption (FEC) decreased by 3.4% to 9.59 Mtoe. Compared with 2022, FEC decreased in almost all main sectors except for transport (where FEC increased by 2.1%). In the industrial sector, FEC decreased by 9.2%, in residential by 4.2% and in services by 8%. Bulgaria's 2030 target PEC contribution of 13.19 Mtoe, as indicated in the NECP, aligns with the EED recast Annex I formula results: 13.71 Mtoe (Reference Scenario) and 14.20 Mtoe (Updated Reference Scenario). However, Bulgaria's NECP 2030 target for FEC contribution of 8.82 Mtoe falls short of the 8.42 Mtoe EED expectation.

Bulgaria should take measures to reach its 2030 reduction target for energy consumption of buildings by 251 ktoe that was set in its latest long-term renovation strategy (LTRS). Between 2021 and 2030, Bulgaria plans to renovate about 8% of the total floor space of buildings and to save about 2.9 TWh and around 1.3 Mt of CO_2 emissions. However, FEC in the residential sector increased by 6.15% between 2022 and 2023 (climate-corrected data). Heating and cooling represent the highest share of FEC in residential buildings (at about 67%). The

([172])Renewable capacity statistics 2025, IRENA

([173])Yearly electricity data, Ember.

([174])Ordinance No. 6 of March 28, 2024, on the Connection of Objects to the Electrical Networks by the Energy and Water Regulatory Commission (KEVR).

climate-corrected FEC for space heating in the residential sector has been on a slight downward trend since 2020 (according to data until 2022).

The limited nature of data on heating and cooling prevents a full and proper assessment of renewable energy's potential in the sector. Bulgaria has not provided a comprehensive assessment on heating and cooling that identifies the potential of high-efficiency cogeneration and efficient district heating and cooling (as required by the recast EED). The share of heat pumps for the supply of energy for heating and cooling is reported at just 3%, compared with 37% for heating boilers (including biomass boilers). The residential electricity-to-gas price ratio has decreased by 40% over the past five years, making heating with heat pumps financially attractive. In 2023 61% of households had an air conditioner ([175]), but data on their use for space heating are not available ([176]).

Bulgaria's national financing framework for mobilising investments in energy efficiency is mostly composed of grants but it does not leverage sufficient private funding. In 2024, Bulgaria continued implementing schemes promoting the renovation of the public and commercial building stock. It introduced a new scheme targeting the private residential segment. However, Bulgaria needs to leverage additional private funding, in particular by supporting energy services as a key market-enabler for energy efficiency improvements. The building and industry sectors have the greatest access to funding programmes. Under its RRP, Bulgaria executed reforms which enable Energy Service Companies (ESCO) models (C4.R4); facilitate investment in energy efficiency renovations in residential buildings (C4.R2) and reduce the administrative burden linked to renovations (C4.R5). Under its RRP, Bulgaria will increase by 30% the energy efficiency of street lighting systems (C4.I3) and building stocks in the (i) residential; (ii) public; and (iii) manufacturing, trade and services sectors (C4.I11).

Security of supply and diversification

Bulgaria has not yet phased out Russian fuels, but it has made efforts to strengthen security of supply and diversify its natural gas sources through infrastructure investments. Following the expiry of the Ukraine-Russia agreement for transit of gas, Bulgaria became the only entry point for Russian pipeline gas into the EU. After the completion of the Interconnector Greece-Bulgaria (ICGB), Bulgaria took part in the finalisation of the LNG terminal in Alexandroupolis in 2024. Bulgaria should accelerate the delayed realisation of the project of common interest to expand the capacity of the Chiren underground gas storage to 1 bcm in view of its relevance for regional security of supply. Bulgaria should support the upgrade of the ICGB (phase II), which is a priority project under REPowerEU and the CESEC High-Level Group and which will allow increased flows from TAP and LNG terminals in Greece. The Bulgarian authorities and the gas TSO should maximise the use of existing infrastructure essential for the security of supply of the south-east Europe region. Bulgarian stakeholders should deliver on the commitment in the CESEC High-Level Group to harmonise different gas quality standards, which are currently impeding the full usage of the Trans-Balkan pipeline. Between August 2022 and November 2024, Bulgaria reduced its gas demand by 14%, just below the 15% voluntary target recommended by the Council ([177]). Bulgaria terminated its temporary exemption from EU sanctions on Russian oil imports in March 2024 – nine months before its expiry.

Bulgaria's Kozloduy nuclear power plant operates two VVER-1000 reactors, which

([175])Bulgarian National Statistical Institute, Availability of Durables, 2023.

([176])Eurostat, Disaggregated final energy consumption in households, data for 2022.

([177])Council Regulation (EU) 2022/1369 of 5 August 2022 on coordinated demand-reduction measures for gas

contribute close to one third of the national electricity generated. To phase out Russian nuclear fuel, the plant signed diversification agreements with Westinghouse and Framatome for alternative fuel supplies. The new Westinghouse design fuel was loaded in Unit 5 in May 2024. The first delivery of Framatome fuel assemblies is expected in November 2025. It is important for Bulgaria to develop a national plan to fully phase out its dependency on Russian nuclear fuel, as foreseen by the REPowerEU Roadmap adopted on 6 May 2025. The government has announced that work will start on two new reactors (AP1000) at the existing nuclear installation. The first of these is planned for commissioning after 2030.

Despite progress in renewables, Bulgaria's overall energy mix in 2023 remained heavily reliant on fossil fuels. Oil accounted for 27.4% of gross inland consumption, coal for 21.3% and natural gas for 12.4% ([178]), while renewables (and biofuels) contributed 14.4% ([179]). Nuclear accounted for 24.2%.

Fossil fuel subsidies

In 2023, environmentally harmful ([180]) fossil fuel subsidies without a planned phase-out before 2030 represented 0.82% ([181]) of Bulgaria's GDP ([182]), above the EU weighted average of 0.49%. Income/price support accounted for 99% of this volume while the remaining share were tax measures. Fossil fuel subsidies without a planned phase-out before 2030 and which do not specifically address, in a targeted way, energy poverty nor genuine energy security concerns include (i) feed-in tariffs for CHP and district heating and (ii) the systematically renewed order of the state for the purchase of electricity from TPP "Maritsa East II". Additionally, Bulgaria's 2023 Effective Carbon Rate ([183]) averaged EUR 65 per tonne of CO_2, below the EU weighted mean of EUR 84.80 ([184]).

([178])Electricity and heat are excluded in order to avoid double-counting. The focus is on primary energy sources.

([179])Gross inland consumption (Eurostat).

([180])FFS that incentivises maintaining or increasing in the availability of fossil fuels and/or use of fossil fuels.

([181])Ratio denominator is based on volumes cross-checked with Bulgarian authorities.

([182])Ratio numerator is based on 2023 Gross Domestic Product at market prices provided by Eurostat.

([183])The Effective Carbon Rates is the sum of carbon taxes, ETS permit prices and fuel excise taxes, representing the aggregate effective carbon rate paid on emissions.

([184])OECD (2024), Pricing Greenhouse Gas Emissions 2024

Table A8.1: **Retail energy price components for household and non-household consumers, 2024**

	Bulgaria				EU			
	2021	2022	2023	2024	2021	2022	2023	2024
Household consumer - Electricity retail price (EUR/KWh)	**0.1057**	**0.1120**	**0.1165**	**0.1201**	**0.2314**	**0.2649**	**0.2877**	**0.2879**
Energy & supply [%]	57.5%	49.1%	46.9%	56.1%	36.6%	54.3%	55.6%	47.8%
Network costs	25.8%	34.2%	36.5%	27.2%	26.7%	25.3%	24.8%	27.2%
Taxes and levies including VAT	16.7%	16.7%	16.7%	16.7%	36.7%	20.3%	19.6%	25.0%
VAT	16.7%	16.7%	16.7%	16.7%	14.5%	13.4%	13.8%	14.6%
Household consumer - Gas retail price	**0.0538**	**0.0969**	**0.0792**	**0.0634**	**0.0684**	**0.0948**	**0.1121**	**0.1128**
Energy & supply	61.3%	80.7%	67.0%	59.1%	43.7%	61.0%	64.5%	53.9%
Network costs	26.6%	15.2%	19.8%	24.1%	22.5%	17.3%	17.1%	18.3%
Taxes and levies including VAT	12.1%	4.1%	13.1%	16.7%	33.8%	21.7%	18.4%	27.8%
VAT	16.7%	12.5%	13.1%	16.7%	15.5%	11.6%	10.2%	13.6%
Non-household consumer - Electricity retail price	**0.1188**	**0.1635**	**0.1366**	**0.1184**	**0.1242**	**0.1895**	**0.1971**	**0.1661**
Energy & supply	72.4%	132.3%	71.1%	77.8%	43.0%	66.5%	63.0%	55.8%
Network costs	12.8%	11.3%	15.3%	14.7%	15.8%	10.7%	11.9%	15.5%
Taxes and levies excluding VAT	-2.3%	-72.3%	-3.7%	-11.1%	30.4%	9.9%	11.2%	15.4%
Non-household consumer - Gas retail price	**0.0337**	**0.0886**	**0.0516**	**0.0378**	**0.0328**	**0.0722**	**0.0672**	**0.0517**
Energy & supply	76.0%	93.0%	81.3%	75.9%	66.2%	77.3%	77.3%	68.7%
Network costs	5.9%	3.3%	5.8%	6.6%	7.7%	3.8%	5.3%	7.1%
Taxes and levies excluding VAT	1.8%	-8.6%	0.6%	1.1%	12.5%	6.1%	7.3%	11.6%
Wholesale electrity price (EUR/MWh)	211.8	261.2	104.1	102.3	111.0	233.2	99.1	84.7
Dutch TTF (EUR/MWh)	*n/a*	*n/a*	*n/a*	*n/a*	46.9	123.1	40.5	34.4

	2017	2018	2019	2020	2021	2022	2023	2024
Gross Electricity Production (GWh)	**45 613**	**46 838**	**44 277**	**40 754**	**47 568**	**50 499**	**40 256**	-
Combustible Fuels	23 633	22 606	21 573	17 827	23 079	26 583	15 831	-
Nuclear	15 545	16 125	16 555	16 626	16 487	16 462	16 163	-
Hydro	3 493	5 423	3 383	3 320	5 067	3 833	3 130	-
Wind	1 504	1 318	1 317	1 477	1 434	1 499	1 584	-
Solar	1 403	1 343	1 417	1 469	1 467	2 094	3 521	-
Geothermal	-	-	-	-	-	-	-	-
Other Sources	34	22	31	36	35	28	26	
Gross Electricity Production [%]								
Combustible Fuels	51.8%	48.3%	48.7%	43.7%	48.5%	52.6%	39.3%	-
Nuclear	34.1%	34.4%	37.4%	40.8%	34.7%	32.6%	40.2%	-
Hydro	7.7%	11.6%	7.6%	8.1%	10.7%	7.6%	7.8%	-
Wind	3.3%	2.8%	3.0%	3.6%	3.0%	3.0%	3.9%	-
Solar	3.1%	2.9%	3.2%	3.6%	3.1%	4.1%	8.7%	-
Geothermal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-
Other Sources	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	-
Net Imports of Electricity (GWh)	**-5 480**	**-7 807**	**-5 810**	**-3 408**	**-8 778**	**-12 195**	**-3 333**	-
As a % of electricity available for final consumption	-17.4%	-24.9%	-18.7%	-11.2%	-27.7%	-39.1%	-10.7%	-
Electricity Interconnection [%]	**7.1%**	**9.3%**	**9.2%**	**11.3%**	**14.7%**	**23.5%**	**21.2%**	**16.8%**
Share of renewable energy consumption - by sector [%]								
Electricity	19.0%	22.4%	23.5%	23.6%	21.4%	20.1%	29.4%	-
Heating and cooling	29.9%	33.3%	35.4%	37.2%	30.0%	31.6%	34.9%	-
Transport	7.3%	8.1%	7.9%	9.1%	7.6%	7.7%	8.1%	-
Overall	18.7%	20.6%	21.5%	23.3%	19.4%	19.0%	22.5%	-

	2020	2021	2022	2023	2020	2021	2022	2023
Import Dependency [%]	**38.2%**	**36.2%**	**37.1%**	**39.7%**	**57.5%**	**55.5%**	**62.5%**	**58.3%**
of Solid fossil fuels	9.6%	10.4%	11.6%	5.2%	35.8%	37.2%	45.9%	40.8%
of Oil and petroleum products	97.5%	97.2%	106.1%	101.8%	96.8%	91.7%	97.8%	94.5%
of Natural Gas	96.4%	96.2%	106.1%	99.7%	83.6%	83.6%	97.6%	90.0%
Dependency from Russian Fossil Fuels [%]								
of Natural Gas	75.2%	79.8%	41.4%	0.0%	41.0%	40.9%	20.7%	9.3%
of Crude Oil	0.0%	0.0%	0.0%	0.0%	25.7%	25.2%	18.4%	3.0%
of Hard Coal	84.5%	87.9%	35.7%	0.0%	49.1%	47.4%	21.5%	1.0%

	2017	2018	2019	2020	2021	2022	2023	2024
Gas Consumption (in bcm)	**3.3**	**3.1**	**2.9**	**2.9**	**3.3**	**2.7**	**2.5**	
Gas Consumption year-on-year change [%]	3.4%	-5.5%	-7.6%	1.3%	14.3%	-18.3%	-8.6%	
Gas Imports - by type (in bcm)	**3.3**	**3.1**	**2.9**	**2.9**	**3.3**	**2.9**	**2.5**	
Gas imports - pipeline	3.3	3.1	2.9	2.9	3.3	2.5	2.3	
Gas imports - LNG	0.0	0.0	0.0	0.0	0.0	0.4	0.2	
Gas Imports - by main source supplier [%]								
Azerbaijan	0.0%	0.0%	0.0%	0.7%	8.2%	18.9%	35.2%	
Greece	0.0%	0.1%	20.0%	21.7%	11.3%	26.3%	17.0%	
United States	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	1.7%	
Russia	100.0%	99.9%	79.4%	75.2%	79.8%	41.4%	0.0%	

(i) For household consumers, consumption band is DC for electricity and D2 for gas. Taxes and levies are shown including VAT.
(ii) For non-household consumers, consumption band is ID for electricity and I4 for gas. Taxes and levies are shown excluding VAT and recoverable charges, as these are typically recovered by businesses.
Source: Eurostat

Bulgaria faces major challenges in climate adaptation such as the wide climate insurance coverage gap and increased vulnerability to extreme weather events such as heatwaves and heavy rainfall. Bulgaria has a medium level of vulnerability to floods due to the increase in intense and frequent extreme weather events. These events have also had a devastating effect on the economy, agriculture and the environment. Overall, sustainable water management remains a challenge in Bulgaria. The rate of compliance with the Urban Wastewater Treatment Directive was 31% in 2020. Bulgaria also has the highest rate of water loss in the EU and a deteriorating public water supply infrastructure. It records an average of over 60% of water loss, even reaching as much as 90% in some regions.

Climate adaptation and preparedness

Bulgaria is increasingly vulnerable to floods, heatwaves and droughts. A key concern is the impact of heatwaves and droughts. Central-eastern Europe has seen the highest annual increase in vulnerability to droughts ([185]). The average impact of droughts on ecosystems is significantly higher in Bulgaria (7%) than it is in other EU countries (average 4%), with only three other European countries having a higher percentage impact area ([186]). A peak was reached in 2020 when 9.3% of ecosystems suffered from severe drought. The impact of heatwaves and droughts also extends to wildfires. Between 2006 and 2023, wildfires burned an annual average of over 10 509 ha in Bulgaria. In 2024, there were 133 fires, significantly more than annual average of 30 in previous years. Under a 3 °C climate scenario, heatwaves that are currently a once-in-50-year event may happen every 3-5 years in Bulgaria ([187]).

Sustainable water management is also important for Bulgaria, as the country faces increases in heavy precipitation and flood events. The European Climate Risk Assessment finds that climate change is leading to increasing river floods in the region, and a higher probability of 10 for heavy rainfalls in the country ([188]). A notable example is the impact of Storm Daniel in 2023, which caused severe pluvial and fluvial floodings in Bulgaria.

Climate risks have a direct impact on Bulgaria's economy and society. It is likely that increasing climate stress will produce higher debt-to-GDP projections in central-eastern Europe, as well as higher pressure on the already changing demography of the region ([189]). Between 1980 and 2023, Bulgaria suffered EUR 5.2 billion in economic losses caused by weather and climate-related extreme events, of which only 2% was insured. Bulgaria has one of the lowest insurance coverage rates against extreme events in the EU. On the link between climate change and health, Bulgaria also recorded around 156 deaths per 100 000 citizens due to extreme heat for the period 2013-2022, a 5% increase on the previous decade. The average exposure of older people to heatwaves in Bulgaria has increased over the past decade. Bulgaria also had the highest level of exposure to wildfire smoke in central and eastern Europe ([190]).

Greater national policy action on adaptation and preparedness is needed in Bulgaria. The country has several national governance structures in place, comprising a national adaptation plan, a 2030 adaptation strategy, a national expert council on climate change, and a climate change coordination council as well as a unified rescue system and focal point for environmental data collection and reporting. However, between 2021 and 2023 limited changes were made to the national governance structures supporting adaptation to climate change. The Commission's 2023 assessment of Bulgaria's progress on adaptation identifies several areas for improvement. They include stepping up coordination between the competent national authorities, developing monitoring and modelling tools and better reporting and planning at subnational level. The Bulgarian recovery and

([185])EEA, 2024, *European Climate Risk Assessment*.

([186])EEA, 2024, Drought impact on ecosystems in Europe, Link.

([187])PESETA IV, Climate change impacts of heat and cold extremes on humans, p. 1, Link.

([188])EEA, 2024, *European Climate Risk Assessment*. p. 66.

([189])EEA, 2024, *European Climate Risk Assessment*, p. 77.

([190])EEA, 2024, *Economic losses from weather- and climate-related extremes in Europe*, Link.

resilience plan has several reforms and investments related to adaptation to climate change. In particular, the national action strategy contributing to the 2030 targets of the farm to fork strategy promotes adaptation. Additionally, the fund to promote the technological and ecological transition of agriculture has adaptation as the central objective. These measures aim to address the challenges related to the increased climate risks and, in particular, related to sustainable water management and droughts.

Climate adaptation is increasingly tackled at subnational levels, too. Around 41.3% of the population live in areas covered by the Covenant of Mayors for climate & energy, with signatories in 10 of the 49 cities that made commitments on adaptation. Two cities, Sofia and Burgas, have made notable policy improvements on climate adaptation, with an adaptation strategy for Sofia and a vision to develop the Burgas municipality. This is illustrated in the initiatives to develop training courses and publicity material on climate adaptation for both Burgas and Sofia, organised in recent years. There is also an increase in projects between Bulgarian municipalities and partners from European countries to discuss innovative measures to support climate mitigation and adaptation. 13 of the 294 EU regions and local authorities participating in the EU Mission on Adaptation are in Bulgaria.

Water resilience

In Bulgaria, issues with water resource management persist. Large areas of Bulgaria are subject to water stress, in particular due to demand from energy, agriculture and for the public water supply/tourism. These sectors are heavily dependent on water supply. The Water Exploitation Index Plus (WEI+), which tracks water use against renewable water resources, measured 1.2% in 2022 (EU average: 5.2%). Bulgaria reported its second flood risk management plan in January 2024 but has not yet reported its third river basin management plan. Based on reporting in the second river basin management plan, 46% of all surface water bodies have a good ecological status and 97% have a good chemical status. An analysis of the second plan identified nutrients leached from agriculture as a major source of pressure on groundwater and surface water. This affects the water status and is one of the main reasons for failure to meet the Water Framework Directive objectives. Moreover, Bulgaria's marine waters are not yet in a good environmental status. It has not yet communicated its programme of measures under the Marine Strategy Directive.

Bulgaria's wastewater treatment is a cause for concern. The Urban Wastewater Treatment Directive aims to protect human health and the environment from the effects of untreated urban waste water. Overall, in Bulgaria, the compliance rate was 31% in 2020 which is the 4th lowest value in the EU. According to data from the Bulgarian Water Association and the World Bank, Bulgaria ranks the highest in the EU on water losses in the depreciated network, with an average of over 60% losses, in places reaching as much as 90% ([191]). Monetary losses due to leaks reach EUR 140 million. Measures to comply with the requirements of the Directive are therefore essential. This is particularly important as the Directive has been revised to strengthen existing treatment standards and bring in a new, additional treatment for micropollutants in urban waste water ([192]). To meet the various environmental targets under the Water Framework Directive and the Floods Directive, more investment is needed. Bulgaria has a water investment gap of EUR 439 million per year (0.52% of gross domestic product), EUR 239 million per year just for wastewater measures (see Graph A9.1). Drinking water measures require an additional EUR 31 million per year and the other aspects of the Water Framework Directive around EUR 167 million per year over existing levels of financing.

Biodiversity and ecosystems

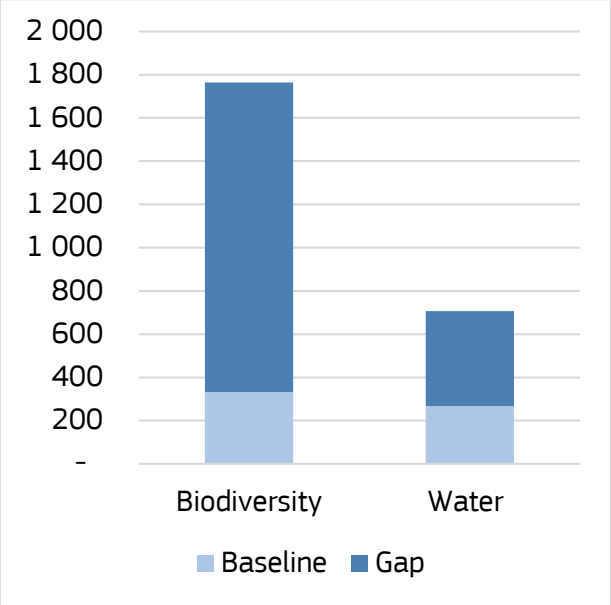
The state of nature and ecosystems is a cause for concern in Bulgaria, reducing the country's climate resilience. Bulgaria is one of the most biologically diverse countries in the EU. It hosts 92 habitat types and 209 species covered by the Habitats Directive. In 2022, 34.9% of land in Bulgaria was covered by the Natura 2000 network

([191])Ivanova, M., 2025, *Bulgarian solutions to major water problems*, Kapital Insights, Link.

([192])Directive (EU) 2024/3019, of 27 November 2024. The deadline for transposition is 31 July 2027.

(EU average: 18.6%). Including both Natura 2000 and other nationally designated protected areas, Bulgaria legally protects 41% of its land (EU-27 average: 26%) and 8.1% of marine areas (EU-27 average: 12%). The current level of biodiversity financing is estimated at EUR 332 million per year (in 2022 prices) in the 2021-2027 period. 62% of this is direct financing for biodiversity and ecosystems. To meet the environmental objectives on protecting and restoring biodiversity and ecosystems and other related horizontal measures, Bulgaria has an estimated investment gap of EUR 1.4 billion per year, corresponding to 1.7% of its GDP (see Graph A9.1).

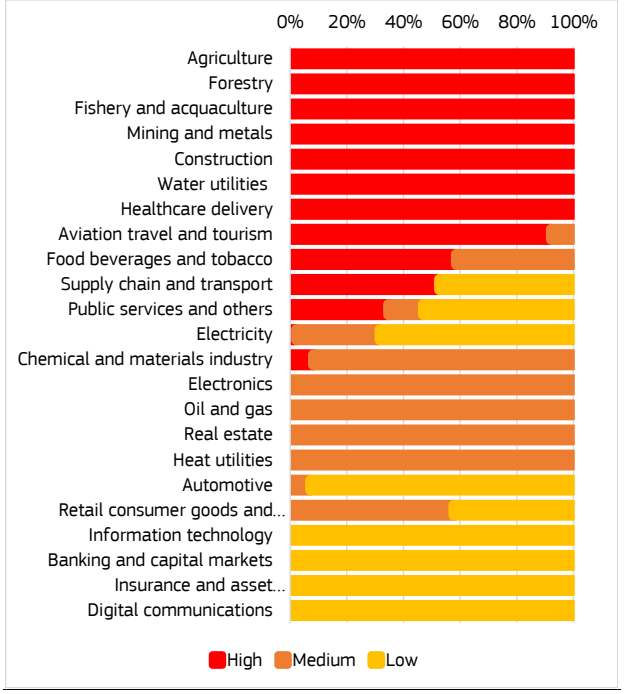
Graph A9.1: **Investment needs and gaps in EUR million, in 2022 constant prices**



Source: European Commission, DG Environment, Environmental investment needs & gaps assessment programme, 2025 update.

Nature degradation creates significant risks to the economy and to competitiveness. Several sectors such as agriculture, forestry, fisheries, construction, mining and metals, water utilities and healthcare (see Graph A9.2) are particularly dependent on ecosystem services. 100% of the gross value generated by these sectors is directly dependent on ecosystem services. In addition, Bulgaria's economy is heavily dependent on ecosystem services in its supply chain, with 30% of the gross value added highly dependent. This is driven by a particularly high degree of dependency in the mining and oil and gas sectors. This means that failure to maintain the capacity of ecosystems to deliver services could entail significant costs or even stop production in these sectors. Protecting and restoring key ecosystems would help maintain the long-term competitiveness of these sectors.

Graph A9.2: **Direct dependency(1) on ecosystem services(2) of the gross value added generated by economic sector in 2022**



(1) Dependency based on the sector's own operations, excluding value chain operations within countries and across international value chains. A high dependency indicates a high potential exposure to nature-related shocks or deteriorating trends, which means that the disruption of an ecosystem service could cause production failure and severe financial loss.

(2) Ecosystem services are the contributions of ecosystems to the benefits that are used in economic and other human activity, including provisioning services (e.g. biomass provisioning or water supply), regulating and maintenance services (e.g. soil quality regulation or pollination), and cultural services (e.g. recreational activities).

Source: Hirschbuehl et al., 2025, *The EU economy's dependency on nature*, Link.

Sustainable agriculture and land use

Bulgaria's carbon removals fall short of the level of ambition needed to meet its 2030 target for land use, land-use change and forestry (LULUCF). Forests and grassland management play a key role in Bulgaria in removing carbon through land use. The main contributions to carbon removals are from forest management and afforestation/reforestation. However, total net removals have fallen

from -16.3 million tonnes of CO_2 equivalent (CO_2eq) in 2005 to -9.5 in 2022. This indicates a long-term deterioration of the situation, despite net removals remaining broadly stable since 2016. To meet its 2030 LULUCF target, an additional -1.2 CO_2eq removals are needed ([193]). The latest available projections show a gap to target of 1.4 million tonnes of CO_2eq for 2030 ([194]). Therefore, additional measures are needed to reach the 2030 target. The Bulgarian national and energy climate plan details further action in forest territories, afforestation of abandoned agricultural lands, recovery of wetlands and woodland belts. It is important for Bulgaria to systematically provide information on the timeframe for implementation, the source of funding and especially the quantified impact of the measures.

Bulgaria is transitioning to a sustainable food system by implementing policies to reduce the environmental impact of agriculture. The utilised agricultural area in Bulgaria decreased from 5.12 million hectares in 2012 to 5.02 million hectares in 2022. In 2022, 6.2% of agricultural land had landscape features such as woods and non-productive grasslands, above the EU average of 5.6%. Bulgaria aims to increase the area under organic farming, which is currently very low (2.25%). To mitigate the environmental impact of agriculture, Bulgaria's common agricultural policy strategic plan aims to improve freshwater management through on-farm investments in existing irrigation installations. These investments should increase potential water savings by 20% and reduce water use by 60% in areas with water bodies in less than good condition. Standards for good agricultural and environmental conditions set more demanding basic requirements for farmers that aim to protect the soil, preserve soil potential, reduce water pollution and increase biodiversity.

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

([194])Climate Action Progress Report 2024 COM/2024/498.

Table A9.1: **Key indicators for progress on climate adaptation, preparedness and environment**

Climate adaptation and preparedness:	Bulgaria						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Drought impact on ecosystems *[area impacted by drought as % of total]*	0.02	0.13	9.33	0.81	3.56	2.49	6.77	2.76
Forest fires burned area [1] *[ha, annual average 2006-2023]*	10 509	10 509	10 509	10 509	10 509	10 509		
Economic losses from extreme events *[EUR million at constant 2022 prices]*	-	-	6	2	40	23	24 142	62 981
Insurance protection gap [2] *[composite score between 0 and 4]*	-	-	-	-	1.75	1.63		
Heat-related mortality [3] *[number of deaths per 100 000 inhabitants in 2013-2022]*	156	156	156	156	156			
Sub-national climate adaptation action *[% of population covered by the EU Covenant of Mayors for Climate & Energy]*	38	36	36	37	38	41	41	44

Water resilience:	Bulgaria						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Water Exploitation Index Plus, WEI+ [4] *[total water consumption as % of renewable freshwater resources]*	0.8	1.0	1.0	0.9	1.2	-	4.5	4.5
Water consumption *[million m^3]*	976	970	915	976	1 055	-		
Ecological/quantitative status of water bodies [5] *[% of water bodies failing to achieve good status]*								
Surface water bodies	-	-	-	-	-	-	-	59%
Groundwater bodies	-	-	-	-	-	-	-	93%

Biodiversity and ecosystems:	Bulgaria						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Conservation status of habitats [6] *[% of habitats having a good conservation status]*	12.2	-	-	-	-	-	14.7	-
Common farmland bird index *2000=100*	-	-	-	-	-	-	72.2	74.4
Protected areas *[% of terrestrial protected areas]*	-	-	-	41	41	-	-	26

Sustainable agriculture and land use:	Bulgaria						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Bioeconomy's added value [7] *[EUR million]*	4 001	4 225	4 471	5 335			634 378	716 124
Landscape features *[% of agricultural land covered with landscape features]*	-	-	-	-	6	-		
Food waste *[kg per capita]*	-	-	108	103	93	-		
Area under organic farming *[% of total UAA]*	2.6	2.3	2.3	1.7	2.2		7.99	-
Nitrogen balance *[kg of nitrogen per ha of UAA]*	61.8	28.8	54.2	35.0	38.7	-		
Nitrates in groundwater [8] *[mgNO_3/l]*	29.8	29.5	30.5	30.5	-	-		
Net greenhouse gas removals from LULUCF [9] *[Kt CO_2-eq]*	- 9 872	- 9 586	- 9 605	- 9 579	- 9 540	-	- 256 077	- 240 984

(1) The data show the average for the timespan 2006-2023 based on EFFIS - European Forest Fire Information System.
(2) Scale: 0 (no protection gap) – 4 (very high gap). EIOPA, 2024, Dashboard on insurance protection gap for natural catastrophes.
(3) van Daalen, K. R. et al., 2024, The 2024 Europe report of the Lancet Countdown on health and climate change: unprecedented warming demands unprecedented action, The Lancet Public Health.
(4) This indicator measures total water consumption as a percentage of the renewable freshwater resources available for a given territory and period. Values above 20% are generally considered to be a sign of water scarcity, while values equal or greater than 40% indicate situations of severe water scarcity.
(5) European Commission, 2024, 7th Implementation Report from the Commission to the Council and the European Parliament on the implementation of the Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC) (Third River Basin Management Plans and Second Flood Risk Management Plans).
(6) For this indicator, the EU average includes figures for the UK under the previous configuration, EU-28.
(7) European Commission, 2023, EU Bioeconomy Monitoring System dashboards.
(8) Nitrates can persist in groundwater for a long time and accumulate at a high level through inputs from anthropogenic sources (mainly agriculture). The EU drinking water standard sets a limit of 50 mg NO_3/L to avoid threats to human health.
(9) 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.
Source: Eurostat, EEA.

Bulgaria's labour market is marked by growing employment – surpassing pre-pandemic levels – and strong wage increases. However, the country continues to struggle with structural challenges that negatively impact its competitiveness and undermine its economic growth potential. They include: i) adverse demographic developments; ii) migration of talent; iii) skills shortages in the face of the twin green and digital transition; iv) underrepresentation of some groups due to low capacity of active labour market policies, particularly Roma, persons with disabilities, young people and people with low levels of education; and v) stark regional disparities. As Bulgaria is progressing well on its 2030 employment rate target of 79%, it is crucial that the country fosters a resilient and more inclusive labour market and supports economic growth by means of i) expanding the workforce by activating underrepresented groups; ii) addressing skills and labour shortages; iii) preparing the labour force for the twin transition; and iv) increasing productivity and job quality.

Bulgaria's labour market performs strongly but is characterised by a shrinking workforce. The employment and activity rates rose to historically high levels, reaching 76.8% and 80.1% in 2024, respectively against EU averages of 75.8% and 80.4%, with Bulgaria closing in on its 2030 employment target of 79% (see Social Scoreboard in Annex 13). However, the total number of people in employment follows a negative trend mainly due to adverse demographic change, with a decline of 3% in the working-age population between 2019 and 2023. The unemployment rate remained low (4.2% in 2024), below the EU average (5.9%)**,** following a continuous downward trend in recent years**.** The labour market slack ([195]) continues to decline (from 6.9% in Q3-2023 to 6% in Q3-2024), remaining well below the EU average of 10.1% in Q3-2024. This decrease was mainly due to a lower number of unemployed and fewer people available to work (but not seeking). The job vacancy rate has been consistently low for the last 10 years; it stood at 0.8% in 2024, 1.6 percentage points (pps) below the EU average and is one of the lowest in the EU.

Employers report significant labour needs in the short and long term, but overall labour demand has decreased. In 2024, a comprehensive annual employers' survey ([196]) suggested that the demand for workers had remained high, with an estimated total need of over 260 000 additional workers (9.3% of the workforce), only 2.6% less than what was reported in 2023. However, the number of published job vacancies decreased in 2023 and 2024. Nonetheless, the share of employers expecting labour shortages to limit their production was above the EU average in Q4-2024, standing at 43.8% for construction, 39.9% for industry and 29.4% for the service sector ([197]). Growing deficits have emerged for certain occupations, including some in sectors with low pay and difficult working conditions The most requested occupations were accounting clerks, office professionals, researchers and engineers, teachers, nurses and personal service workers ([198]). Skills shortages reported by the Bulgarian employers relate to structural challenges with the education system, and deficiencies in upskilling and reskilling the labour force.

The strong overall performance of the labour market is accompanied by pronounced regional disparities. The Severozapaden region had the lowest employment rate with 67.2% in 2023 (20-64 age group), while the Yugozapaden region (thanks to the strong economy of the capital city Sofia) was the best performer with 80.5%, surpassing the 2030 national target (79%) (see Graph A10.1). In Q4 2024, the average monthly wages varied from EUR 968 in the Severen tsentralen region (followed closely by the Severozapaden region) to EUR 1 533 in the Yugozapaden region ([199]). Similarly, in terms of activity rates, the Severozapaden region is the worst performer, with 72.9% and the Yugozapaden region reports the highest rate at 83.3%. Over recent years, regional disparities in terms of employment levels and job opportunities, as well

([195])Labour market slack refers to all unmet needs for employment, namely representing the extent to which labour supply exceeds labour demand in the short run.

([196])https://www.az.government.bg/pages/prouchvane-potrebnosti-2024/

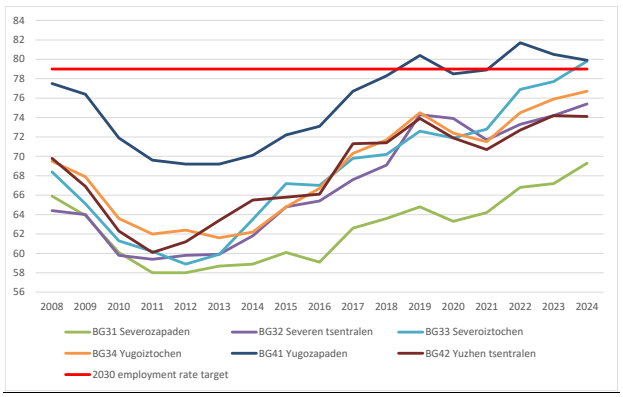
([197])ECFIN European Business and Consumer Surveys.

([198])EURES - Countries and occupations | CEDEFOP. Data from January to September 2024.

([199])Average monthly wages per region, National Statistical Institute data.

as wage levels show little signs of improvement. In addition to the gap in the labour market performance in the Severozapaden region, some municipalities in the best performing regions such as Yugozapaden (highly influenced by the capital Sofia) have unemployment rates that are three times the national average. This is indicative of the considerable divide in the labour market's performance between big cities and smaller towns and rural areas.

Graph A10.1: **Employment per region, 2008-2024**



% of population 20-64

Source: Eurostat, LFS [lfst_r_lfe2emprt]

While remaining among the lowest in the EU, wages and labour costs continue to grow, outpacing inflation and labour productivity growth. Despite the disinflation (from 13% in 2022 to 8.6% in 2023 and 2.6% in 2024), wages kept growing rapidly in 2023 and 2024, driven by increases in public sector wages and the minimum wage. In 2023, the government adopted a mechanism setting the statutory minimum wage at 50% of the average gross wage for the past 12 months. This led to a sharp increase of 19.6% in 2024 (setting the minimum wage at EUR 551) and an increase of 15.4% for 2025, outpacing inflation. Real wages grew by 6.4% in 2024 and are expected to increase by 8.4% in 2025, after moderate growth, but which is still higher than the EU average growth rates in 2022 and 2023 (1.4% and 4.7%, respectively) ([200]). The strong increases in wages in recent years have pushed up unit labour costs more than in other EU Member States. However, unit labour costs remain at a very low level and Bulgaria continues to gain export market shares at rapid pace. Due to the stark regional disparities, the minimum wage is around 60% of the average salary in the Severozapaden region and below 40% of the average salary in the Yugozapaden region. Despite hourly labour costs recording double-digit growth in 2022 and 2023, Bulgaria continues to be one of the Member States with the lowest labour costs, more than three times lower than the EU average. Labour productivity (GDP per hour worked) has been growing in the last 10 years (except for 2023), averaging 2.4% growth over this period and it improved further in 2024 ([201]). However, the nominal labour productivity remains among the lowest in the EU.

The relatively high employment rate is not evenly distributed and vulnerable groups experience considerably higher unemployment rates. Young people, persons with disabilities, those with lower educational attainment and the Roma face difficulties integrating into the labour market. While the share of young people (15-29) neither in employment nor in education and training (NEET) is declining in line with the overall trend in the EU, it remained high at 12.7% in 2024 (1.7 pps above the EU average). However, the decline is not equal for all groups. 52% of young persons with disabilities were NEET in 2022 ([202]). The disability employment gap has also been consistently one of the highest in the EU (except for 2021), standing at 35.4 pps in 2024 (vs EU: 24 pps), a 5.9 pps increase from 2022 (see Graph A10.2). So far, Bulgaria has not set an employment target for persons with disabilities. Employment outcomes are closely tied to educational attainment. The employment rate for people with at most lower-secondary education, at 48.5%, is around 42 pps lower than for those with tertiary education (compared to a 27.8 percentage point gap in the EU on average) (see Graph A10.2). The Roma are facing substantial challenges in gaining employment with only 47% in employment while the share of Roma women in employment is two times lower than for Roma men (31% vs 63%) ([203]).

([200])Based on the European Commission Autumn 2024 economic forecast.

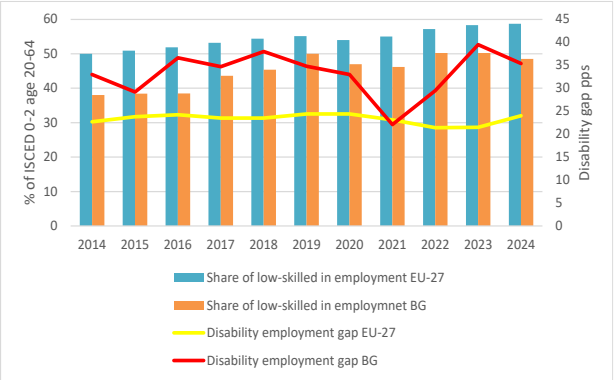
([201])See National Statistical Institute's annual data.

([202])European comparative data on persons with disabilities - Publications Office of the EU

([203])FRA Roma Survey 2021.

While women's participation in the labour market remains consistently above the EU average overall, challenges remain, especially concerning the gap in wages and the share of women in management positions. In 2024, women's participation in the labour market stood at 73.1% compared to an EU average of 70.8%. The gender pay gap has been fluctuating showing no an upward trend in recent years, standing at 13.5% in 2023 vs an EU average of 12%. The share of women in senior management positions is improving, but it stood at only 18.3% compared to an EU average of 33.8%. Contributing factors include workers having less flexibility to decide on their working time compared to the EU average, limited availability of childcare facilities (particularly in densely populated cities) ([204]), stereotypes about women's family responsibilities and limitations as regards working hours. The limited capacity and quality of childcare facilities is particularly worrying as it is not showing signs of improvement contrary to the overall EU trend. With participation of children under the age of 3 in formal childcare standing at 21.2% in 2024, Bulgaria is considerably below the EU average (39.2%). All these factors result in women finding more job opportunities in professions with lower pay (e.g. social workers, waitresses, hotel maids or cashiers). Bulgaria consistently reports the lowest share of people working part-time or on temporary contracts in the EU (1.5% vs an EU average of 17.2% in 2024). At the same time, the share of involuntary part-time employment in Bulgaria was more than twice the EU average in 2024 (38.7% vs 18.2%), suggesting that even the modest use of part-time contracts in many cases is not to the worker's benefit.

Graph A10.2: **Employment low-skilled and disability employment gap**



Source: Eurostat, LFS [lfsa_ergaed, tepsr_sp200]

Demographic decline is limiting Bulgaria's competitiveness and growth potential. Bulgaria lost 19.1% of its working-age population between 2011 and 2021, mainly due to migration outflows ([205]) and ageing, with the negative trend set to continue. Bulgaria had one of the highest shares of people aged 65 or older in the EU in 2024 (23.8% vs 21.6% EU average) and the share of children (0-14 years) was below the EU average (14.1% vs 14.6%). In the short term, despite a slowdown of the negative growth ([206]), the population is expected to decline by additional 3.4% by 2027 ([207]). Long-term projections suggest a further decrease of 21% from by 2050 ([208]). Despite subsiding, outward migration of workers and loss of talent continue to be an issue, with differences in living standards in the EU being a major driver. Even with its relatively high growth rate, the average wage in Bulgaria reached only 36% of the EU average in 2023, while the labour productivity was 56.3% ([209]) and the GDP per capita was 64% of the EU average. The disparities in wage levels between Bulgaria and other Member States appear to be more pronounced for

([204]) Education in the Republic of Bulgaria, National Statistical Institute, Sofia, 2024.

([205]) A total of 344 000 people emigrated during that period, which was the cause of 40.7% of the decline in the total population (see the press release and the Statistical reference book for the 2021 census, National Statistical Institute, Sofia 2023).

([206]) 2023 and 2024, were the years with the smallest negative growth in the last decade: -0.54% and -0.03%, respectively.

([207]) Analytical Report on Labour Market Imbalances, the Employment Agency by Metric Analytics (2023).

([208]) See World Health Organisation's projection at https://data.who.int/countries/100.

([209]) Nominal labour productivity per hour worked.

low-skilled jobs ([210]). Nevertheless, Bulgarian citizens leaving the country are often highly educated ([211]), suggesting that Bulgaria is also losing some of its most skilled workers. Because of this demographic situation, activating and integrating underrepresented groups in the labour market is critical for Bulgaria's competitiveness and economic growth, as the shrinking labour force poses long-term challenges. Some recent positive developments in relation to migration ([212]) suggest that efforts to attract workers to the country could be successful thanks to growing wages and might help address the potential labour shortages to some extent.

The public employment service (PES) has implemented activation measures, but further efforts will be needed to boost its capacity and further expand the labour force. The investments in and capacity to provide active labour market policies (ALMPs) in Bulgaria is among the lowest in the EU, negatively impacting vulnerable groups. The human resources development programme financed by European Social Fund Plus (ESF+) has set aside a dedicated budget of EUR 315 million to integrate unemployed or inactive young people into the labour market and enable them to develop their skills. Key strategic operations targeted at young people, unemployed people and inactive people are already being implemented. A data exchange mechanism to register inactive people is being prepared, with expectations that it would enable the PES to identify, target and support them as well as include them in the labour market. Further development of the network of Roma mediators and the digitalisation of the PES (with support from the Recovery and Resilience Facility, the ESF+ and the Technical Support Instrument) could have more impact on the ground. ALMPs in Bulgaria still allocate substantial resources to subsidised employment at the expense of training, while data show that training measures are the most effective and should play a more prominent role in the mix of ALMPs. In addition to targeted ALMPs along with upskilling and reskilling, fostering legal migration and attracting talent, particularly from non-EU countries, may be increasingly needed to alleviate labour and skills shortages in key sectors and bolster Bulgaria's competitiveness.

The workforce faces challenges to adapting to the green and digital transitions, with a growing need for skilled workers in emerging sectors. In 2024, employment in the country's energy-intensive industries represented 3% of total employment or more than 98 000 (3.5% in the EU), with 15 000 employees to be directly impacted by the green transition in the most affected regions of Kyustendil, Pernik and Stara Zagora. Jobs in the green economy have expanded rapidly – employment in the environmental goods and services sector grew by 34.7% between 2016 and 2022 (one of the largest increases, but starting from a low base), reaching 2.5% of total employment (EU: 3.3%) in 2022. The greenhouse gas emission intensity of Bulgaria's workforce has improved, decreasing from 17.6 tonnes per worker in 2011 to 12.3 in 2023, in line with the EU average, suggesting some progress has been made in the green transition. As to the digital transition, the information and communication technology (ICT) sector remains underdeveloped, with ICT specialists accounting for 4.3% of total employment in 2023, compared to 4.8% in the EU, due to, among other things, a low level of enrolment in higher education programmes preparing ICT specialists, despite an increase. Nevertheless, the number of ICT specialists grew by 13.2% between 2022 and 2023, compared to an EU average growth of 4.3%. Also, Bulgaria had the highest share of female ICT specialists (29.1% vs EU 19.4%). Broader digital skills among the working population also lag behind, with 46.4% of workers (aged 25-64) having at least basic digital skills (EU average 64.74%), while just 35.5% of the general population meets this threshold (see Annex 12). Only 9.1% of Bulgarian businesses with 10 or more employees provide ICT training, against an EU average of 22.4%. Moreover, only one third of people in Bulgaria believe they have the necessary skills to contribute to the green transition (see Annex 12) underscoring the need to further strengthen people's upskilling and reskilling.

While wages have increased, a high in-work poverty rate, as well as low levels of adult

([210]) Statistics | Eurostat. Largest differences in pay are visible for elementary workers and for service and sales. Skilled labour is also paid much lower, but the gap is smaller

([211]) Garrote Sánchez, Daniel, Janis Kreuder, Mauro Testaverde, 'Migration in Bulgaria: Current Challenges and Opportunities', *Social Protection & Jobs, Discussion paper No 2109*, World Bank Group, Washington, December 2021.

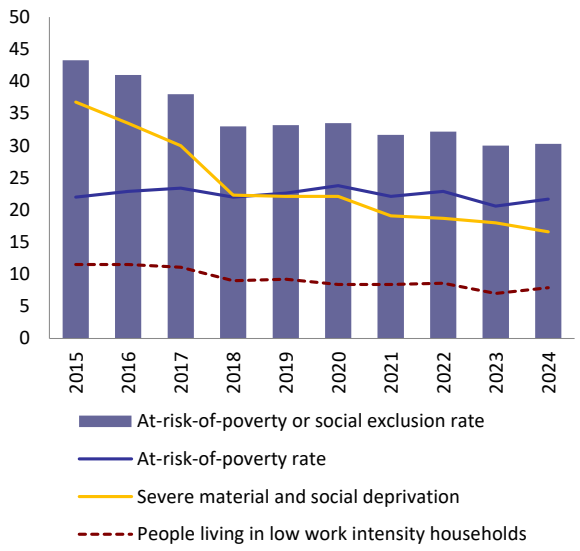
([212]) Data from the National Statistical Institute show a reverse in the overall negative migration flow since 2020, with positive net migration both for EU and non-EU citizens (see here and here).

learning and occupational safety negatively impact on job quality. Despite the rapid growth in 2023 and 2024 and a projected considerable increase in 2025, real wage levels remain low compared to other EU Member States and Bulgaria had one of the highest rates of in-work poverty in the EU in 2024 at 11.8%, considerably above the EU average of 8.2%. The situation is much worse for those working part-time, where the share of those at risk of poverty reached 30.1% compared to an EU average of 12.6% in 2023. Despite some fluctuations, the overall in-work poverty rate has been steadily rising over time. In addition, people in employment often have limited access to training courses, with only 28% being involved in education or training in 2022 (among the lowest in the EU), compared to an EU average of 53.9%. In addition, with one of the highest incidence rates of fatal accidents in the EU in 2022 at 3.33 per 100 000 employed (twice the EU average of 1.66), Bulgaria has made little progress in improving safety at work in the period 2018-2022. These characteristics of the labour market, coupled with the poor outcomes of the education system, undermine the potential to create quality jobs, reduce the attractiveness of employment in general, and negatively affect the quality and availability of labour, therefore jeopardising Bulgaria's competitiveness and potential for economic growth.

Social conditions are improving in Bulgaria as overall poverty has decreased. At the same time the country continues to face significant challenges related to very high poverty and social exclusion, particularly among some groups, notably children. Income inequalities remain high, partially due to the low redistributive impact of the tax and benefit system. Addressing these challenges will contribute to inclusive growth and competitiveness. The acute demographic decline raises concerns for the adequacy and sustainability of social security, specifically pensions, and the care system. The limited capacity of the social protection system and uneven access to quality services also pose risks for Bulgaria's sustainable and inclusive growth.

Despite progress, poverty and social exclusion risks continue to be widespread. The rate of people at risk of poverty or social exclusion (AROPE) has been declining gradually since 2015, with an annual increase of 0.3 percentage points (pps) in 2023 and a total of 13.0 pps over this period. This is mainly driven by a reduction in the severe material and social deprivation rate, which is 20.2 pps lower than in 2015. Conversely, the at-risk-of-poverty rate (AROP) has largely stagnated, only decreasing by 0.3 pps since 2015 (see Graph A11.1). These positive developments can be attributed to economic growth above the EU average (2.8% vs 1.0% in the EU in 2024) as well as a longer-term convergence process. However, poverty rates remain among the highest in the EU, with the AROPE rate at 30.3% in 2024 (EU: 21.0%), severe material and social deprivation at 16.6% (EU: 6.4%), and the AROP rate at 21.7% (EU: 16.2%). Persistent poverty risks are driven by a combination of factors, including unequal economic opportunities and limited access to quality education, healthcare and social services, especially in rural areas and for disadvantaged groups, notably Roma. The number of people in AROPE decreased by 371 000 since 2019 (reaching around 2 million in 2024). At the current pace, Bulgaria appears to be on track to reach the 2030 reduction target of 787 000 compared to 2019. Still, continuous and sustained support is important to reach the national poverty reduction target by 2030.

Graph A11.1: **Components of AROPE, 2015-2024**



% of total population

Source: Eurostat, EU-SILC [ilc_peps01n,ilc_li02, ilc_mdsd11, ilc_lvhl11n]

The risk of experiencing poverty or social exclusion is affected by several factors, including age, place of residence, disability status and ethnicity. In 2024, people living in rural areas were almost twice as likely to face poverty or social exclusion risks (at 40.8%) than those residing in cities (22.1%). The AROPE rate was also very high for older people (36.6% vs the EU average of 19.4%), and Roma people (78.3%) ([213]), and was one of the highest in the EU for persons with disabilities (43.8%). In-work poverty affected 11.8% of the workforce in 2024 (up from 11.4%) vs 8.2% in the EU, with large differences across economic sectors and regions. Approximately EUR 632 million from the European Social Fund Plus (ESF+) is allocated for social inclusion and a further EUR 180 million for material aid to the most vulnerable. More sustainable, holistic and multisectoral initiatives could help effectively address the challenges faced by children, persons with disabilities, Roma and the rural population.

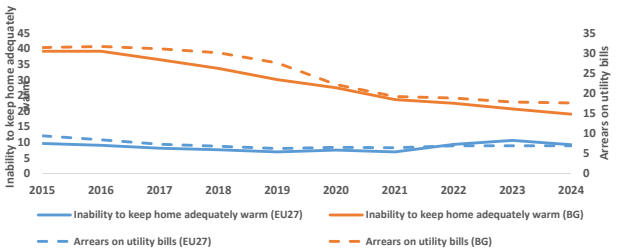
The risk of poverty or social exclusion among children remains among the highest in the EU. The AROPE rate for children has increased to 35.1% in 2024 (EU: 24.2%), pointing to a persistently critical situation. Children whose parents have low levels of education are more

([213])Bulgaria National Statistics Institute.

likely to experience poverty: more than 4 in 5 children from households with a lower educational attainment are affected, compared to around 1 in 8 from households with a high level of education. In 2024, the proportion of materially deprived children was 18.5% among the Bulgarian ethnic group and 77.7% among Roma ([214]). By 2030, Bulgaria aims to reduce the number of children at risk of poverty or social exclusion by at least 196 750 compared to the 2019 level. In 2024, 40 000 fewer children were AROPE compared to the baseline of 434 000, highlighting the need for more support. To mitigate the impact of poverty on children, Bulgaria is implementing the European Child Guarantee (ECG) according to its national action plan and targeted two-year operational plans. The 2024 ECG progress report shows considerable progress, but it also underlines outstanding challenges in terms of proper nutrition and healthy diet, affordable housing and the accessibility of early childhood education and care. The ECG's implementation is supported by EU cohesion policy funds and the Recovery and Resilience Facility (RRF), including through the construction of kindergartens, educational assistance, food and material support, and integrated services provision.

Despite improvements since 2018, income inequality remained high. The income of the richest 20% of the population was nearly 7 times that of the poorest 20% in 2024. The sum of the income shares of the first and second income quintiles (S40) was particularly low (17.5%, 4.3 pps below the EU average). It has increased gradually but is still far from the pre-2008 value (20.6%). The income in the first and second decile groups (the poorest) increased by 50-60% between 2020 and 2023, while in the eighth and ninth decile groups, income increased by only 30-40%. Moreover, income inequality is influenced by the inequality of opportunities in early childhood, whereby aspects such as parents' education have a disproportionate effect on income prospects later in life ([215]). According to a recent European Commission study ([216]) on inequality trends post-2007, the inequality-reducing effect of taxes (see Annex 2) and social transfers on income inequality (S80/S20) is one of the lowest in the EU (27% vs 48% for the EU).

Graph A11.2: **Components of energy poverty 2015-2024**



% of population

Source: Eurostat, [ilc_mdes01, ilc_mdes07]

Energy and transport poverty, coupled with environmental inequalities, pose significant challenges to the fair green transition. The share of the population unable to keep their homes adequately warm decreased between 2016 and 2024 (by 20.2 pps, to 19%; see Graph A11.2). Nevertheless, it remains significantly higher than the EU average (9.2%) and particularly high for people at risk of poverty, almost double the national average, at 37.2%. Arrears on utility bills are also more pronounced than in most other Member States with 17.6% of households facing arrears on utility bills in 2024, a sizeable decrease of 16.4 pps compared to the peak of 34% in 2013, but still more than double the EU average of 6.9%. To address this, Bulgaria has implemented targeted heating allowances benefiting approximately 340 000 households annually. Long-term strategies include the renovation of multi-family residential buildings to upgrade them to energy class C. The updated national energy and climate plan includes plans for a knowledge centre on energy poverty but does not include specific targets or timelines. Bulgaria has adopted a definition of energy poverty and energy vulnerability (as part of its recovery and resilience plan (RRP)), but the support mechanisms are still under development and more targeted efforts will be necessary, especially in light of Bulgaria's commitment to liberalising the electricity market. In the area of transportation, the share of the

([214])Self-assessment in survey of applicable ethnic group (Bulgarian, Turkish, Roma, etc.), National Statistics Institute.

([215])Inequality of opportunity in Bulgaria: Policy Note (2024). World Bank. Available at https://openknowledge.worldbank.org/entities/publication/46e9792b-7 879-4354-b1d8-faa7d44986b8.

([216])*Economic Inequalities in the EU* (2024). European Commission: 960863c4-b2b3-45ac-a79b-e693d5cec7da_en.

population who could not afford a car was 10.5% in 2024 (vs EU: 5.6%), even more pronounced (22.9%) for people in AROP. Reliance on private cars for inland transport rose to 86.9% in 2022 (80.6% in 2011), exceeding the EU average of 83.4%. In the same period, the share of trains, motor coaches, and trolleybuses for inland transport declined from 19.4% to 13.1%. Overall, Bulgaria's transportation infrastructure and public transportation system may not be adequately meeting the needs of its population, especially lower income households. On environmental inequalities, the consumption footprint for 20% of the population with the highest income was 2.3 times higher than the footprint of the poorest 20% in 2022 (EU: 1.9).

Despite recent improvements, the social protection system still has adequacy and coverage gaps. Expenditure on social protection benefits is among the lowest in the EU (18.3% vs 26.8% of GDP in 2023), especially on social assistance, family benefits and unemployment benefits. According to the benchmarking framework on minimum income, Bulgaria performs much worse than the EU average in terms of adequacy (19.1% of the poverty threshold vs 56.3% for the EU in 2023), with an observable decrease in the longer term. Moreover, only 25.1% of the unemployed (unemployed for less than 12 months) received unemployment benefits in 2024 (EU: 36.6%). The limited capacity of the system to alleviate poverty suggest a potential to increase the efficiency, coverage and effectiveness. In 2024, the impact of social transfers (excluding pensions) on poverty reduction was still limited at 27.7%, significantly less than the EU average of 34.4%. Some workers in non-standard forms of employment (including certain seasonal workers) and the self-employed in general have little social protection coverage and face substantially higher poverty and deprivation rates. The social protection system has been recently strengthened through the inclusion of automatic indexation mechanisms and simplified eligibility criteria, which are expected to result in better adequacy and coverage. The minimum income reform (a deliverable under the RRP), in force since June 2023, has improved the social assistance system allowing for better adequacy, and larger coverage of a variety of support schemes. The take-up of disability-related benefits has increased, and their adequacy has been improved. Yet, there is scope for further measures to strengthen access to social protection, in line with the 2019 Council recommendations ([217]).

Demographic trends pose a significant challenge for the future adequacy of the pension system. In 2024, the aggregate pension replacement ratio (excluding other social benefits), defined as the gross median individual pension income (for the 65-74 age group) relative to gross median individual earnings from work (for those aged 50-59), decreased annually from 0.46 to 0.44 (below the EU average of 0.61). Since 2022 the government has focused its efforts on improving the adequacy of the pension system with the latest indexation of 11% taking place in July 2024. The age cohorts above 65 are expected to account for a greater proportion of the overall population by 2070, rising to 31% compared to 22% in 2022 ([218]). Retaining older people in the labour market and incentivising them to prolong their working lives is key to achieving a sustainable job market and a balanced social system in the longer term. Yet demographic trends will put financial pressure on the pension system, the National Insurance Institute calculated that the expenditure for pensions would peak in 2026/2027 at 11.5% of GDP, and that it would then stabilise at around 10%, but this would require large transfers from the central budget ([219]). To compensate for the increased costs and to guarantee the long-term financial sustainability, a number of recommendations were made by the National Insurance Institute, such as increasing pension contributions, weighing in the automatic indexation mechanism, and limiting the impact of the special categories of workers.

Amid a rapidly ageing population, access to long-term care services for older people and persons with disabilities remains limited. In 2022, spending on long-term care (LTC) in Bulgaria was among the lowest in the EU (0.5% of GDP vs 1.7% in the EU). This is reflected in the very low share of people aged 65+ who receive public home care or residential care (0.7% and

([217])Council Recommendation of 8 November 2019 on access to social protection for workers and the self-employed 2019/C 387/01; Council Recommendation of 30 January 2023 on adequate minimum income ensuring active inclusion 2023/C 41/01.

([218])2024 Ageing Report – Country Fiche for Bulgaria.

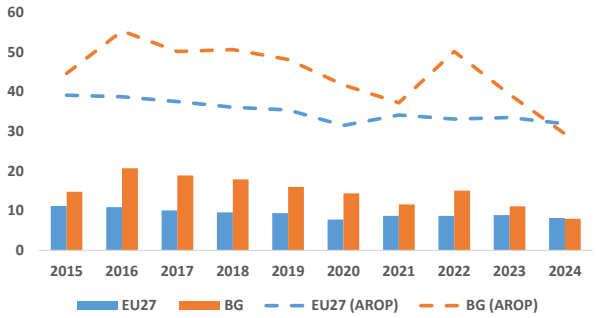
([219])Ministry of Labour and Social Policy, Analysis of the Mandatory Pension Insurance, 2024.

1.1% respectively vs 5.5% and 3.3% in the EU). In addition to the challenges concerning access and adequacy, LTC provision is also hampered by the shortage of social care workers, due to factors such as ageing and emigration. With the overhaul of social services initiated by the Social Services Act in 2020, Bulgaria has started to gradually improve its system in an effort to build up access, affordability and quality. The ordinance on the quality of social services (2022) and the national map of social services (2024), adopted as commitments under the RRP, will act as the cornerstones for future investments in accessibility, quality and attractiveness of social services, but sustained implementation is key. Furthermore, in March 2024, the 2024-2030 strategy for human resource development in the social sphere was adopted, aiming to boost staff qualifications, training, wages and tackle shortages. Funding from the ESF+, the European Regional and Development Fund, and the RRF, together with national co-financing, of EUR 790 million is being channelled towards addressing issues of quality, access and human resources.

Access to healthcare remains challenging, notably for vulnerable groups. The self-reported unmet need for medical care was 1.1% in 2024, below the EU average of 2.5%, but the burden falls disproportionately on people in the lowest income group at 2.7%, compared to 0.3% in the highest income group, indicating significant socio-economic disparities in healthcare access. Vulnerable groups and people living in rural and remote areas often have limited access to healthcare services, including specialised care and emergency services, also due to shortages of certain medical professionals (see Annex 14).

House prices have been rising significantly (in 2023 they were up 87% compared to 2015) and are estimated to be slightly overvalued. In 2024, house prices showed signs of acceleration, growing by 16.5% year-on-year in Q3-2024. They are estimated to be overvalued by 10-15%. In 2023, mortgages grew by 20.5%, while still at a low level in terms of stock, at 10.8% of GDP. Furthermore, the share of the population with a mortgage is very low (1.8%). In terms of financial stability, in February 2024 the European Systemic Risk Board concluded that the residential real estate market in Bulgaria was subject to medium risks and the macroprudential policy mix was only partially appropriate and partially sufficient to mitigate the situation ([220]).

Graph A11.3: **Housing cost overburden 2015-2024**



% of population and % of people in AROP
Source: Eurostat, [ilc_lvho07a]

Overall housing affordability has improved amid strong growth of household incomes, but mounting housing costs and poor housing conditions still affect households in rural areas and lower income communities. The standardised house price-to-income ratio has been steadily decreasing over the past decade as house prices have grown significantly less than household income. In 2023, it stood at around 60% of its long-term average. The ratio of dwellings per capita has increased by nearly 20% since 2015 and is the highest in the EU. This reflects a dynamic growth of the number of dwellings while population decreased (-8% since 2015), though this decline has been slowing down in the last years. The ratio of house completions per capita has also increased over the past years but remains below the EU average. Despite a slight decrease over the past two years, residential building permits stand above their pre-pandemic levels. A large portion of the housing stock (40%) remains vacant in absence of policies supporting return of the vacant properties to the market. Taking into account the cost of mortgage funding, the borrowing capacity of households improved significantly over the last ten years as well. While the rental market is extremely small, the ratio of new rents to incomes also decreased over the last decade. In 2024, 8.% of the population faced housing costs above 40% of their total disposable household income (net of housing allowances) below the EU average of 8.2%, it has been decreasing in recent years, as house prices have

([220])ESRB (2024), Follow-up report on vulnerabilities in the residential real estate sectors of the EEA countries, February 2024.

grown significantly less than household income. The ratio of new rents to incomes has also decreased. For people experiencing poverty risks, this housing cost overburden rate remains close to four times higher, driven by limited access to affordable housing. Housing cost overburden rates are also higher in rural areas than in cities (9.3% vs %). In 2024, 33.8% of people lived in an overcrowded household (EU: 16.9%). For people at risk of poverty, this percentage rose to 42.9% (EU: 28.8%). Despite an improvement of 2.6 pps since 2020, structural deficiencies in dwellings, such as leaks, damp or rot, affected 8.4% of the Bulgarian population in 2023. Furthermore, a relatively high share of the population and specifically those in poverty lacked access to basic sanitary facilities such as indoor flushing toilets (7% and 20.6% respectively in 2020). Despite plans to renovate the building stock (see energy poverty above), there is insufficient structural and strategic planning in the housing sector in terms of accessibility and affordability and limited piecemeal social housing projects carried out by municipalities.

Low levels of basic skills, inequalities in education, and limited adult participation in learning exacerbate skills shortages and hinder Bulgaria's competitiveness. Rapidly changing labour market needs, stemming from the green and digital transitions and other technological changes, together with Bulgaria's shrinking workforce, put pressure on the education and training systems' ability to effectively equip young people and adults with the relevant skills. Weaknesses in skills development start at an early age with low participation of disadvantaged children in quality early childhood education and care (ECEC). In addition, around half of 15-year-olds are failing to meet minimum standards in basic skills. Strong inequalities in education leave 3 out of 4 disadvantaged pupils without basic skills, negatively affecting their upskilling opportunities and employment prospects later in life. The share of adults engaged in learning activities is very low. This can be attributed to limited access to training opportunities, including online and flexible training, and a lack of awareness of the value of lifelong learning. Moreover, higher education and vocational education and training (VET) do not adequately respond to labour market needs, leading to skills mismatches ([221]), exacerbated by a low share of science, technology, engineering and mathematics (STEM) graduates and a low level of digital skills. Major weaknesses in skills development and human capital formation hinder Bulgaria's potential for research and innovation, productivity growth and competitiveness.

Low participation of disadvantaged children in quality ECEC impacts foundational learning and increases inequalities. In 2022, enrolment was 87.8% for children aged 3 to the starting age of compulsory primary education (EU: 93.3%). Substantial efforts were made to improve participation ([222]), including with funding from the European Social Fund Plus (ESF+). However, lack of places still affects large urban areas. Participation is lower for children from disadvantaged backgrounds and Roma (58% in 2021 ([223])), who stand to benefit the most from quality ECEC. The government has started integrating nurseries into the education system and improved the pedagogical qualifications of childcare staff, but progress is slow.

Lack of basic skills among young people is the main barrier to later skills development. In the 2022 OECD Programme for International Student Assessment (PISA), 53.6% of Bulgarian 15-year-olds underperformed in mathematics, 52.9% in reading and 48% in science ([224]). These rates are some of the highest in the EU and significantly above the EU averages (mathematics: 29.5%, reading: 26.2%, science: 24.2%). Moreover, 38.3% of young Bulgarians underperform simultaneously in mathematics, reading and science (EU: 16.1%). This points to challenges stemming from the school curriculum, teaching quality and socio-economic factors. Bulgaria has made efforts to identify and reintegrate out-of-school children and provided large-scale remedial education (co-financed by ESF/ESF+) to students at risk of dropping out. Consequently, early school leaving dropped to 8.2% in 2024 (EU: 9.3%), compared to 13.9% in 2019, although it remains high in rural areas (17.7%) ([225]) and for the Roma. On the other hand, a strong decline in basic skills was recorded and is of major concern. Compared to 2012, low achievement increased by 9.8 pps in mathematics (EU: 7.3 pps), 13.5 pps in reading (EU: 8.2 pps) and 11.1 pps in science (EU: 7.4 pps). These trends show the need for efforts to focus on educational outcomes, including by evaluating the effectiveness of the remedial education provided and expanding support to all those in need.

There are large inequalities in educational outcomes, leaving significant parts of the population behind. Bulgaria has one of the highest rates of people at risk of poverty or social exclusion (AROPE) in the EU (see Annex 11). AROPE rates are more than eight times higher for the lowest-skilled people than for the highest-skilled (51.6% vs 6.1% in 2024). This leads to educational disadvantages for a large share of children and

([221])The macroeconomic skills mismatch decreased from 20.5% in 2022 to 19.2% in 2024 (in line with the EU average). It is measured by an indicator that is based on the dispersion of employment rates for different skill groups (skills are represented by the level of education - ISCED).

([222])E.g., preschool education for children aged 4-6 is compulsory, kindergarten fees were eliminated.

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

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

([225])Compared to 10% in towns and suburbs and 4.2% in cities.

students, particularly the Roma, which the education system struggles to overcome. There is a high degree of social segregation affecting schools, which exacerbates learning disadvantages. 64% of Roma children aged 6-15 attend school where all or most pupils are Roma ([226]). 62% of students from the poorest quartile underachieve simultaneously in all three PISA subjects (EU: 28.8%). These educational inequalities have negative implications, such as the lower participation of disadvantaged young people in higher education and of less qualified adults in lifelong learning. This leads to worse employment, career and wage prospects, which hinders productivity and competitiveness.

The low share of top-performers in basic skills and creative thinking limits the pool of innovative talent. In PISA 2022, very few Bulgarian students demonstrated advanced skills in maths (3.1% vs EU 7.9% and 1.4% in science vs EU 6.9%). Moreover, Bulgarian pupils proved to be the weakest in the EU in creative thinking with a top performance rate of only 7.8% (EU-23: 25.1%). These challenges weaken the country's innovation potential. In addition, a lack of excellence and insufficient competences in maths and science are some of the key drivers for low participation in higher education STEM subjects, alongside poor career guidance.

Bulgaria's 2016 curricular reform did not result in improvements to basic skills. Bulgaria students tend to score better in international surveys that take into account the national curriculum, such as in the TIMMS (Trends in International Mathematics and Science Study) ([227]) and PIRLS (Progress in International Reading Literacy Study) ([228]). By contrast, the PISA survey assesses how students apply their skills and knowledge. The effectiveness of the 2016 curricular reform was limited, partly due to a lack of guidance and support for teachers, insufficient teacher training, inconsistent implementation approaches across regions, and an unalignment of assessment practices ([229]). To improve the curriculum, Bulgaria is working on refining the curricular framework for grades 5-7, with EU support. There are plans for wider curricular revisions.

Structural challenges for the teaching profession are reflected in poor levels of basic skills. Bulgaria has made major efforts to improve the attractiveness of the teaching profession and tackle challenges in the sector, but there are still major challenges. With Bulgarian teachers among the oldest in the EU ([230]), shortages are emerging, including for subjects linked to STEM. There is no forecasting of recruitment needs. Mechanisms to attract highly qualified teachers to poor performing schools are insufficient. Despite high interest in teacher education programmes ([231]), admission criteria are not selective or comprehensive. These programmes do not generally attract high-performing upper secondary graduates, and practical learning during initial teacher education is limited; large shares of graduates do not enter the profession ([232]). Drop-out among novice teachers is high, partly due to insufficient training and support. Continuous professional development is not based on a robust assessment of teachers' training needs. It is fragmented and lacks quality control ([233]). As a result, making quality improvements through teaching is challenging. Dual VET remains underused (at only 9% of VET students), due to its. The employment rate of recent VET graduates has dropped to 66.2% in 2024, now 13.8 pps below the EU average, and nearly half of them (and up to 2/3 in some regions) do no find employment ([234]). This has a negative impact on productivity levels. In its 2021-2030 strategic framework for education and training, Bulgaria has prioritised VET, and the RRP is investing in the renovation of and equipment for VET schools. In addition, the ESF+ supports the

([226])FRA (2021) Roma survey, Figure 15.

([227])For example, the average score in mathematics obtained by Bulgarian fourth graders was above the EU average for the countries surveyed in 2023 (530 and 512.7, respectively).

([228])The average reading score of Bulgarian fourth graders was 540, compared to 527 for the 19 EU countries surveyed in 2021.

([229])OECD (2023b) Skills Strategy Bulgaria.

([230])49.1% are over 50 (EU 39.8%); 31.4% over 55 (EU 24.8%).

([231])In 2023, 14% of bachelor students were pursuing a degree in education, compared to 11% in 2019.

([232])World Bank (2020), Bulgaria Teaching Workforce. Policy Note and Recommendations and OECD (2023b) Skills Strategy Bulgaria

([233])OECD (2023b) Skills Strategy Bulgaria

([234])Bulgarian Institute for Market Economics (2023), Index of the Correspondence between Vocational Education and Economic Profiles.

extension of dual VET, the creation of 20 sector skills councils (which developed a new list of VET professions) and the implementation of modernised curricula in 417 VET schools. In the VET standards developed in 2022 and 2023, there are mandatory requirements for learning outcomes relating to the digital and green skills. Despite these efforts, there is a need for a greater awareness of dual VET, improved career orientation for learners, and a stronger role for social partners and other local bodies in VET (i.e. employers, trade unions, municipalities, NGOs).

Skills shortages are exacerbated by a declining number of higher education graduates. In 2024, 40.5% of Bulgarians aged 25-34 had a tertiary education degree (EU: 44.21%), with especially low rates among men (32.2% vs 49.2% for women). Between 2019 and 2023, the percentage of bachelor students dropped by 12%, caused by demographic trends and a high proportion of Bulgarians studying abroad. The number of higher education professionals is further limited by the fact that students from poor backgrounds are very under-represented in higher education ([235]). To meet the demands of businesses, it is forecasted that Bulgaria will need over 226 000 specialists with higher education degrees in the next 3-5 years ([236]). However, the number of new graduates will be insufficient to meet the new demand. The most sought-after professional fields are pedagogy, economics and social activities, medicine and engineering.

Enrolment in STEM fields is low and declining. Despite national efforts, in 2022, only 23.8% of higher education students (ISCED 5-8) were pursuing a degree in STEM (EU: 27.1%), with particularly fewer women enrolled. In medium-level VET in STEM fields, enrolment was higher than the EU average in 2022: 50.7% vs 36.2% in the EU. Enrolment in higher education STEM dropped by 12% between 2017 and 2022. Nevertheless, enrolments in ICT improved (by 19%). The share of ICT graduates is around the EU average (4.8%, EU: 4.5%), but numbers are insufficient to meet the growing demand. Only 3.5% of PhD students are studying ICT (EU: 3.7%).

Despite some improvements, the alignment of higher education to labour market needs is still insufficient, which hampers competitiveness. Despite policy efforts, higher education remains insufficiently responsive to labour market needs, including for the green transition. Universities are not consistently equipping graduates with strong transversal cognitive skills and the practical skills needed by the labour market, delivering enough graduates or sufficiently trained professionals in the key areas of demand. Only 53% of tertiary graduates work in positions requiring tertiary education ([237]): the highest unemployment rate is among graduates in tourism, and the lowest for medicine and pedagogy. This suggests there is a need to further improve the labour market relevance and quality of tertiary education. Bulgaria is implementing large-scale ESF+ operations to modernise university curricula, but the need to improve cooperation with industry remains. ESF+ is also supporting green skills as a cross-cutting theme in higher education and VET.

As part of the broader need for upskilling and reskilling the workforce, developing green and digital skills is particularly critical. The country's economy is highly energy intensive and is facing a restructuring to decrease dependence on coal**.** The needs for reskilling the workforce are particularly relevant for the regions with coal mines and coal-fired power plants (Kyustendil, Pernik and Stara Zagora) where 15 000 jobs will be directly impacted by the green transition. In 2024, there were already shortages in occupations requiring specific skills related to the green transition, including garbage and recycling collectors, forestry and related workers, ([238]). At the same time, only 35% of people in Bulgaria believe that they have the necessary skills to contribute to the green transition, significantly below the EU average of 54% ([239]). Skills and labour shortages are exacerbated by very low levels of digital skills. In 2023, only

([235])World Bank (2022), Bulgaria Higher Education: Situation Analysis and Policy Direction Recommendations

([236])National Employment Agency (2024): The Workforce Needs Survey 2024

([237])Ministry of Education and Science (2021), Ranking system of higher education institutions in Bulgaria.

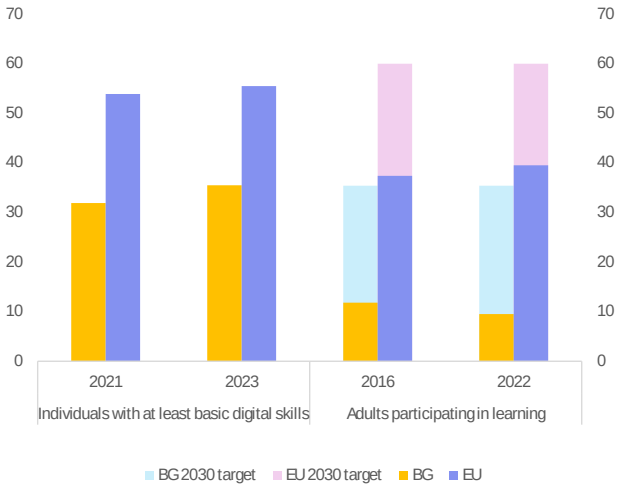
([238])European Labour Authority 2025 EURES Report on labour shortages and surpluses 2024, based on data from EURES National Coordination Offices. Skills and knowledge requirements align with the ESCO taxonomy on skills for the green transition, with examples analysed using the ESCO green intensity index.

([239])Special Eurobarometer 527.

35.5% of the population aged 16-74 had at least a basic level of digital skills, still well below the EU average of 55.6% (see Graph A12.2). The share is higher among young people (16–24-year-olds) at 53.1% but still low compared to the EU average of 69.9% in 2023. The RRP is funding digital education infrastructure in schools and investing in an adult learning platform and digital skills training. Additionally, ESF+ will support more than 215 000 pupils and students to improve their digital skills.

Skills development is crucial for competitiveness, resilience and fairness given the shrinking labour force and skills shortages. 79% of small and medium-sized enterprises in Bulgaria cite skills shortages as hindering general business activities ([240]). In addition, over 40% of employers report that applicants do not meet the necessary skills requirements. Employers in some sectors (e.g. finance and insurance) report the use of on-the-job training to tackle skills shortages in newly employed workers ([241]). Skills intelligence in Bulgaria involves many activities, such as regular forecasts by the Ministry of Labour and Social Policy, skills assessment initiatives, employer surveys and privately funded sectoral studies. Nevertheless, turning skills intelligence into skills development is fragmented. A robust evaluation of existing measures could enable the government to allocate or reallocate funding to activities where returns on investment are the highest. Furthermore, effective governance and coordination of skills policies could ensure an effective response to these challenges. Increased stakeholder involvement and more evidence-based policymaking would also be beneficial. With support from the Technical Support Instrument (TSI), Bulgaria identified priority policy actions for the development of an action plan for skills. These aim to address the fragmented system and the need to better use the skills available.

Graph A12.1: **Skills development in Bulgaria**



(1) % of total population
Source: Eurostat, tepsr_sp410, Circabc (AES and LFS data)

Low participation in adult learning hinders the workforce's ability to adapt to labour market changes. In 2022, participation in adult learning stood at 9.5%, the lowest in the EU and significantly below the EU average of 39.5% ([242]). This was a decline from 11.6% in 2016, widening the gap with the 2030 national target of 35.4%. Younger workers (25-34) reported higher levels of participation (16.9%) than other age groups, as did those with higher education (20.3%). However, in both cases, the Bulgarian rate is about one third of the EU average. Similarly, participation in training among employed people is the lowest in the EU (12% vs 44.7%), especially among low-qualified people. In addition, in 2024, the employment rate gap between those with the highest and lowest educational levels was particularly high in Bulgaria (42 pps vs 27.8 pps in the EU). The low levels of adult participation in learning indicate the need to facilitate access to training by: (i) reducing unnecessary administrative burdens; (ii) increasing the flexibility of training and schedules, including online training; (iii) intensifying the dialogue with social partners on the implementation of effective measures (such as individual learning accounts (ILAs)); and (iv) increasing awareness of the benefits of lifelong learning. A pilot project on ILAs is planned to run from 2025 to 2027. A working group on developing the ILA model has been set up with the participation of stakeholders, including social partners, but progress appears to be slow.

([240]) Eurobarometer survey

([241]) Survey on the needs of employers 2024

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

Table A13.1:**Social Scoreboard for Bulgaria**

Social Scoreboard for Bulgaria		
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)	9.5
	Early leavers from education and training (% of the population aged 18-24, 2024)	8.2
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2023)	35.5
	Young people not in employment, education or training (% of the population aged 15-29, 2024)	12.7
	Gender employment gap (percentage points, population aged 20-64, 2024)	7.2
	Income quintile ratio (S80/S20, 2024)	6.96
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2024)	76.8
	Unemployment rate (% of the active population aged 15-74, 2024)	4.2
	Long term unemployment (% of the active population aged 15-74, 2024)	2.2
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, YYYY)	
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2024)	30.3
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2024)	35.1
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2024)	27.7
	Disability employment gap (percentage points, population aged 20-64, 2024)	35.4
	Housing cost overburden (% of the total population, 2024)	8.0
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2024)	21.2
	Self-reported unmet need for medical care (% of the population aged 16+, 2024)	1.1

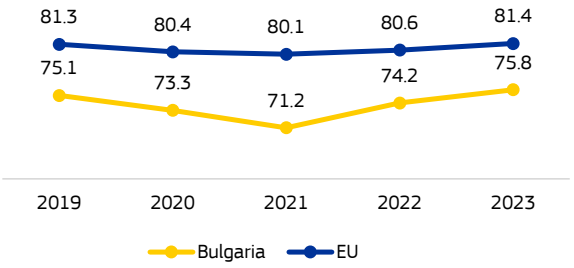
Critical situation	To watch	Weak but improving	Good but to monitor	On average	Better than average	Best performers

(1) Update of 5 May 2025. 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 2025 for details on the methodology (https://employment-social-affairs.ec.europa.eu/joint-employment-report-2025-0).

Source: Eurostat

Bulgaria's health system faces significant challenges. These need to be addressed if the country is to improve the health of its population and social fairness, while boosting the competitiveness of its economy. Challenges include low life expectancy, resulting from high preventable and treatable mortality, and limited access to care. These issues are mainly caused by: (i) suboptimal funding and cost-effectiveness of the health system; (ii) an insufficient focus on disease prevention and outpatient care; (iii) shortages of healthcare workers; and (iv) an uneven geographical distribution of healthcare resources.

Graph A14.1: **Life expectancy at birth, years**

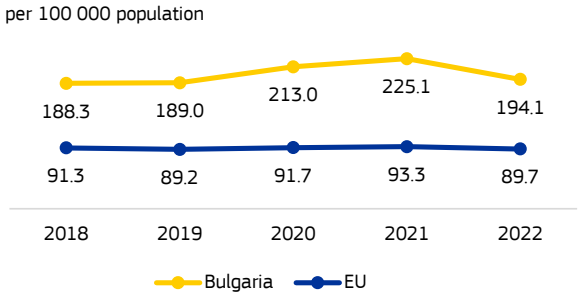


Source: Eurostat (demo_mlexpec)

Life expectancy at birth in Bulgaria rebounded above its pre-COVID-19 level but was still one of the lowest in the EU in 2023. The gender gap in life expectancy is higher than the EU average. In 2022, treatable mortality was one of the highest in the EU, suggesting shortcomings in the effectiveness of the health system. Moreover, mortality from treatable causes has increased in Bulgaria over the last 10 years, increasing to more than twice the EU average. Diseases of the circulatory system ('cardiovascular diseases') and cancer remain the leading causes of death. COVID-19 was the third highest cause of death. Standardised death rates from cardiovascular diseases and COVID-19 were particularly high in Bulgaria (more than three and two times the EU average respectively). As a result, the number of potential productive life years lost due to non-communicable diseases is considerably higher than the EU average (2 531 per 100 000 inhabitants vs 1 017) ([243]). Bulgaria participates in several EU4Health joint actions, which aim to reduce the burden of cancer, such as EUnetCCC (the European Comprehensive Cancer Centre Network), JANE-2 ([244]) and JA PreventNCD ([245]).

The poor health outcomes negatively affect Bulgaria's workforce, productivity and competitiveness. Cancer in particular has a major impact on workforce participation and productivity ([246]). In Bulgaria, mortality at working age as a proportion of total mortality is among the highest in the EU, exacerbating the effects of population ageing on a shrinking labour force (see Annex 10). Between 2022 and 2040, Bulgaria's working age population is forecast to shrink by 0.9% every year (EU: 0.3%).

Graph A14.2: **Treatable mortality**



Age-standardised death rate **(mortality that could be avoided through optimal quality healthcare)**
Source: Eurostat (hlth_cd_apr)

Health expenditure in Bulgaria is low, as is the share of health spending covered by public funds. Bulgaria's health system is strongly hospital centred. Despite rising significantly since 2019, health spending per inhabitant in Bulgaria was one of the lowest in the EU in 2022, with the largest share going to hospital services (around 38% of total health expenditure), and one of the EU's lowest shares going to outpatient care. This, together with one of the highest numbers of hospital beds in the EU in 2022, illustrates Bulgaria's strongly hospital-centred care model. In 2023, the National Health Insurance Fund (NHIF) reported an increase in hospitalisations by 11.2% compared to 2022,

([243])Update to 2022 data of analysis presented by Health at a Glance: Europe 2016 - © OECD 2016.

([244])JANE-2: Shaping the EU Networks of Expertise on cancer!

([245])JA PreventNCD - Reducing Europe's cancer and NCD burden through coordinated strategies on health determinants.

([246])OECD/European Commission (2025), EU Country Cancer Profiles Synthesis Report 2025, OECD Publishing, Paris.

Table A14.1:**Key health indicators**

	2019	2020	2021	2022	2023	EU average* (latest year)
Cancer mortality per 100 000 population	242.2	245.3	229.4	217.3	n.a.	234.7 (2022)
Mortality due to circulatory diseases per 100 000 population	1 051.9	1 119.7	1 211.0	1 074.3	n.a.	336.4 (2022)
Current expenditure on health, purchasing power standards, per capita	1 265	1 470	1 707	1 786	n.a.	3 684.6 (2022)
Public share of health expenditure, % of current health expenditure	60.6	63.1	65.0	63.5	n.a.	81.3 (2022)
Spending on prevention, % of current health expenditure	3.0	2.8	3.9	3.1	n.a.	5.5 (2022)
Available hospital beds per 100 000 population**	717	725	735	764	n.a.	444 (2022)
Doctors per 1 000 population*	4.2	4.3	4.3	4.4	n.a.	4.2 (2022)*
Nurses per 1 000 population*	4.4	4.2	4.2	4.3	n.a.	7.6 (2022)*
Mortality at working age (20-64 years), % of total mortality	19.9	20.0	19.8	18.7	19.5	14.3 (2023)
Number of patents (pharma / biotech / medical technology)	1	2	4	0	2	29 (2023)***
Total consumption of antibacterials for systemic use, daily defined dose per 1 000 inhabitants****	20.7	22.7	24.4	25.7	26.3	20.0 (2023)

*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 based on 2022 (or latest 2021) data except for Luxembourg (2017). Doctors' density data refer to practising doctors in all countries except Greece, Portugal (licensed to practise) and Slovakia (professionally active). Density of nurses: data refer to practising nurses (EU recognised qualification) in most countries except France and Slovakia (professionally active) and Greece (hospital only). **'Available hospital beds' covers somatic care, not psychiatric care. ***The EU median is used for patents. ***Source:*** Eurostat database; European Patent Office; ****European Centre for Disease Prevention and Control (ECDC) for 2023.

while the trend of very low investment in the health sector continued ([247]). The number of hospital discharges per 1 000 inhabitants is one of the highest in the EU, but the occupancy rate and the average length of stay are among the lowest ([248]). This points to a suboptimal use of resources and suggests room for increasing the efficiency of care, in particular by improving the effectiveness of both primary and preventive care, and access to outpatient care. Public spending as a proportion of total health expenditure was among the lowest in the EU in 2022. This translated into the highest proportion of out-of-pocket payments for healthcare in the EU (35% in 2022, about 2.5x the EU average), even though it had decreased somewhat (from 38% in 2019). In 2022, medical goods (retail pharmaceuticals and therapeutic appliances) accounted for almost three quarters (73%) of all out-of-pocket payments ([249]). In 2024, the NHIF increased the reimbursement level and eliminated co-payments for more than 400 medicinal products for the home treatment of chronic cardiovascular diseases. The aim was not only to reduce the out-of-pocket payment level, but also to increase adherence to the prescribed therapy.

Under the Bulgarian recovery and resilience plan (RRP), around EUR 287.5 million is planned to be used for health reforms and related investment. Six reforms are planned, including an update of the strategic framework of the health system and access to health services (set-up and staffing of outpatient care units). Investments also aim at modernising hospitals and medical facilities, emergency communication and air ambulance services (helicopters).

As regards public health, investment in disease prevention remains low in Bulgaria. The share of spending directed at prevention stood at 3.1% of total spending on health in 2022 - around half of the EU average. To address the very high rate of preventable mortality (much higher than the EU average in 2022), in January 2024 access to certain preventive services was expanded by the Ministry of Health. This included medical care for chronically ill patients, regular breast cancer screening for women aged 45 and over and annual prostate cancer screening for men aged 45 and over. Preventable mortality in Bulgaria is closely linked to environmental factors such as air pollution (see Annex 7) and behavioural risk factors. Bulgaria has a low consumption of fruit and vegetables and one of the lowest levels of physical activity outside working time of all EU countries. Both adults and adolescents also report a high level of alcohol consumption and the highest smoking rate in the EU ([250]). Moreover, in 2023, the consumption of antibiotics was well above the EU average, and had further increased since 2019, despite the recommended national target ([251]) of a 18% decrease between 2019 and

([247])On capital formation, see Health at a Glance Europe 2018, 2020, 2022 and 2024.

([248])OECD/European Commission (2024), Health at a Glance: Europe 2024 - State of Health in the EU Cycle, p. 201.

([249])Health at a Glance: Europe 2024, pp. 186-187.

([250])Health at a Glance: Europe 2024, Chapter 4.

([251])National target set by the Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach, 2023/C 220/01.

2030. This raises concerns about antimicrobial resistance.

There are significant challenges in accessing healthcare, with geographical and income-related disparities. Access to care is limited by suboptimal public funding for outpatient care, high out-of-pocket payments, insurance coverage gaps, a system of referral quotas limiting the number of times a general practitioner can refer patients to a specialist in a given year, and an uneven distribution of healthcare resources between regions and between income-level groups. In 2023 and 2024, the proportion of the Bulgarian population reporting unmet needs for medical care was below the EU average (see Annex 11), with unmet needs primarily due to financial reasons and travel distances (see also Annex 17).

However, comparatively high unmet needs for medical examination are still reported in rural areas, which may also be due to greater shortages of healthcare workers in some rural areas. Among people declaring unmet medical needs, the gap between people below and above the poverty threshold (defined as 60% of the median equivalised income) is also higher than the EU average. A range of measures under the RRP and the cohesion policy aim to improve access to healthcare in Bulgaria. These include investments to: (i) modernise hospitals and medical facilities that provide paediatric, oncological or psychiatric care; (ii) set up outpatient care units in remote areas and underserved regions; and (iii) address shortages and unbalanced geographical distribution of healthcare professionals (see also Annexes 15 and 16).

Persistent shortages of nurses and general practitioners limit the availability of care in Bulgaria. In 2022, the number of practising nurses per 1 000 population remained among the lowest in the EU, posing a significant challenge to the health system and, more broadly, the care system (see Annex 11). In addition, Bulgaria had a comparatively low number of nursing graduates in relation to its population. Moreover, more than 40% of nurses were aged 55 and over and less than 9% were aged 34 and under in 2023, raising further concerns about the long-term accessibility of health services. In the last 10 years, the number of doctors per 1 000 inhabitants in Bulgaria has been above the EU average. However, in 2023 over half of them were 55 and over and only 17% were 34 and under. Moreover, the share of general practitioners is very low compared to specialists. The *National Map of the Long-Term Needs of the Healthcare Sector* adopted in 2022 is part of a key reform under the RRP aimed at improving the attractiveness of healthcare professions and promoting a more balanced distribution of healthcare professionals across the territory. Measures include: (i) scholarships; (ii) more university places; (iii) better remuneration; and (iv) increased reimbursement by the NHIF, in particular for medical personnel in hard-to-reach and/or remote areas. Related measures are also planned under the European Social Fund Plus.

The potential of Bulgaria's health system to drive innovation and foster industrial development in the EU medical sector seems to remain largely untapped. Public and private ([252]) investment of Bulgaria's pharmaceutical sector in R&D is among the lowest in the EU. The number of European patents granted for the combined areas of pharmaceuticals, biotechnologies and medical technologies is very low ([253]) and very few clinical trials are held in Bulgaria ([254]).

The uptake of e-health and the overall digitalisation of the health system is slowly improving with the support of EU funds, yet it still lags behind other EU countries and is uneven across the population. While the shares of people accessing their personal health records online and of those using online health services (excluding phone) instead of in-person consultations further increased in Bulgaria in 2024 compared to 2022, they are far below most other EU countries. This illustrates the generally low level of digital literacy in the country (35.5% of individuals with at least basic digital skills in 2023 vs an EU average of 55.6% - see Annex 12). Moreover, major differences in the use of these tools are observed depending on individuals' socio-economic background. Investments to boost the digital transformation of Bulgaria's health sector are planned under the cohesion policy 2021-2027 and under the RRP. Measures include rolling out the National Health Information System and

([252])Private: as reported by the members of the European Federation of Pharmaceutical Industries and Associations: see EFPIA.

([253])European Patent Office, Data to download | epo.org.

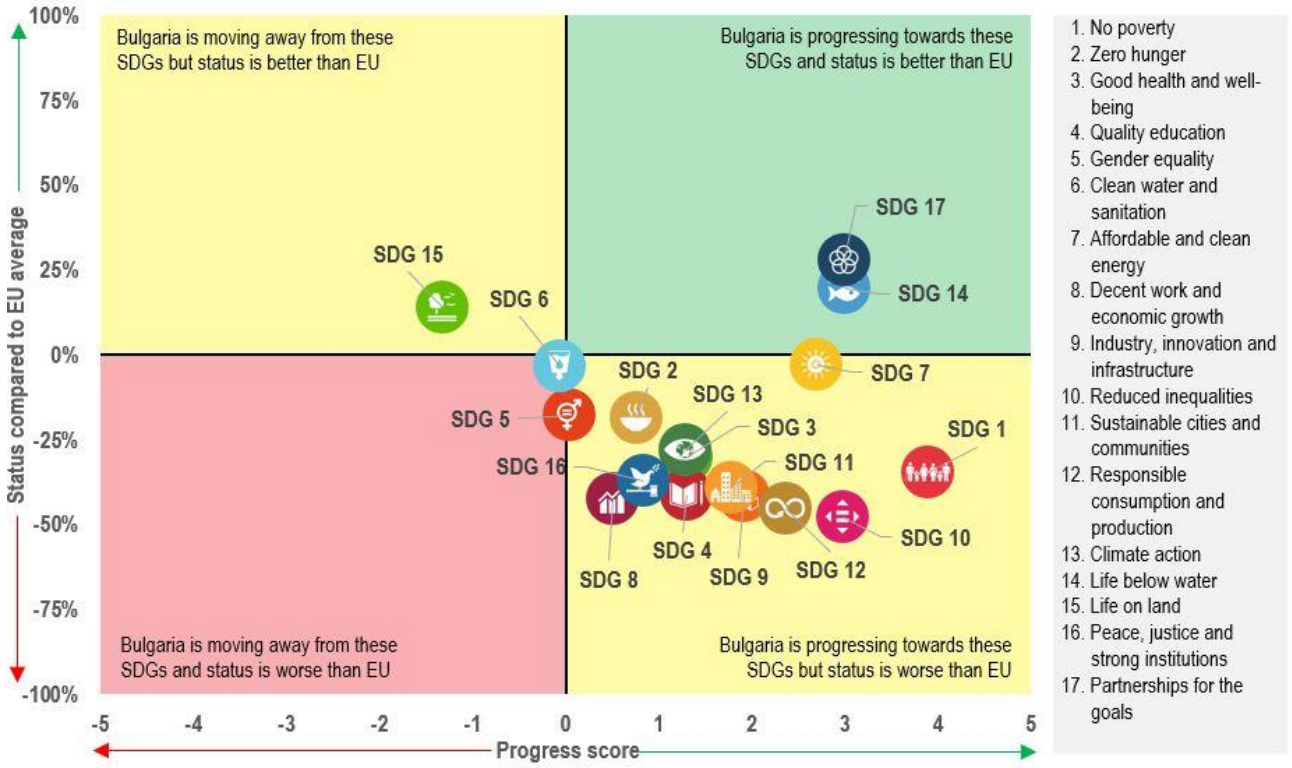
([254])EMA (2024), Monitoring the European clinical trials environment, p. 9.

developing a platform for medical diagnostics. In 2024, a n*ational strategy* and related action plan *for e-health and the digitalisation of the health system 2021-2030* were adopted, and the *National Health Information System* in place since 2020 was upgraded with a new feature which allows the e-health app to notify individuals and their general practitioners about upcoming screening exams and vaccinations. Access to the e-health app has also been simplified with a view to significantly increasing the number of people with access to their e-dossiers, and raising awareness and control over the system.

This Annex assesses Bulgaria's progress on the Sustainable Development Goals (SDGs) along the dimensions of competitiveness, sustainability, social fairness and macroeconomic stability. 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.

Bulgaria is improving on indicators related to *competitiveness* (SDGs 4, 8 and 9) but still lags behind the EU average. On SDG 8 (Decent work and economic growth), Bulgaria is improving on the employment rate of people aged 20 to 64, with an average of 76.8% in 2024 compared to 76.2% in 2023 and compared to the EU average of 75.8%. Similarly, the rate of young people neither in employment nor in education and training (NEET) decreased from 18.1% in 2018 to 12.7% in 2024 (EU average: 11.2%). The long-term unemployment rate decreased to 2.2% in 2024 close to the EU average of 1.9%. However, Bulgaria is regressing on indicators related to decent work, with the in-work at-risk-of-poverty rate at 11.4% in 2023 compared to 2022 (9.7%) and the EU average (8.3%). Despite still lagging significantly behind the EU, Bulgaria has made some progress on R&D and innovation indicators (SDG 9), in particular on Gross domestic expenditure on R&D (from 0.76% in 2018 to 0.79% in 2023, compared to the EU average of 2.22%). The indicators for sustainable infrastructure also show a positive trend in 2023, with 88.6% of households having a high-speed internet connection, a significant increase from 2019 (65.2%) and above the EU average (78.8%).

Graph A15.1: **Progress towards the SDGs in Bulgaria**



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 five 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 28 April 2025. Data refer mainly to the period 2018-2023 or 2019-2024. Data on SDGs may vary across the report and its annexes due to different cut-off dates.

Bulgaria is moving away from SDG 4 (Quality education), for instance on the achievement of 15-year-olds in mathematics and adult participation in learning, but 40.5% of the population aged 25 to 34 graduated from tertiary education in 2024, up from 32.6% in 2019 (EU average: 44.2%). The Bulgarian Recovery and Resilience Plan (RRP) includes significant measures to strengthen education, such as reforms in preschool and school education and lifelong learning, and learning in the fields of STEM (science, technology, engineering and maths).

Bulgaria is improving on several indicators related to *sustainability* (SDGs 2, 7, 9, 11, 12, 13, 14) but often remains below the EU average and is moving away from SDGs 6 and 15. Bulgaria outperforms the EU average indicators on SDG 14 (Life below water), particularly improving on Coastal water bathing sites with excellent water quality (94.6% in 2023 compared to 53.9% in 2018, with the EU average being 88.8% in 2023). Bulgaria is also improving on Climate action (SDG 13) even though it remains below the EU average. Bulgaria needs further efforts to reach the EU average on the Sustainable agricultural production indicator (SDG 2). Despite performing 14% above the EU average on SDG 15 (Life on land), Bulgaria continues to move away in indicators such as land degradation. In addition, the country is lagging behind the EU average regarding sustainable cities and communities (SDG 11), with the recycling rate of municipal waste at 24.6% in 2022 compared to the EU average of 48.2%. Similarly, Bulgaria lags 45.4% behind the EU average on indicators related to responsible consumption and production (SDG 12) and remains slightly below EU average on indicators related to Clean Water and Sanitation (SDG 6). Bulgaria's RRP includes measures to address some of the sustainability challenges, such as developing a framework to deploy renewable energy projects and promoting sustainable agriculture.

While Bulgaria continues to improve on most of the SDGs related to *social fairness* (SDGs 1, 3, 5, 7, 8, 10), a significant gap to the EU average remains on the indicators for quality education (SDG 4). There has been an overall improvement towards SDG 1 (No poverty), with most indicators showing positive trends. Bulgaria further reduced its severe material and social deprivation rate from 22.3% in 2018 to 18% in 2023 (EU average: 6.8%). Another area where Bulgaria is improving is SDG 5 (Gender equality), where the share of women in senior management positions increased to 17% in 2024. At the same time, the gender employment gap of 7.2% remains below the EU average of 10% in 2023. Bulgaria continues to improve on SDG 7 (Affordable and clean energy), with all indicators having improved or stalled compared to 2022. The share of renewable energy in gross final energy consumption increased from 20.6% in 2018 to 22.5% in 2023. Bulgaria needs to catch up with the EU average on SDG 3 (Good health and well-being). The rate of standardised avoidable mortality per 100 000 workers of 470.7 in 2022 is almost double the EU average of 257.8 and has increased compared to 2017. Lastly, Bulgaria is improving on SDG 10 (Reduced inequalities), catching up with the EU average. All indicators on inequalities within the country have improved; for instance, the income quintile share ratio dropped from 7.66 in 2018 to 6.61 in 2023, nearing the EU average of 4.7. The Bulgarian European Social Fund Plus (ESF+) and RRP include measures to address most of these challenges. In particular, the plan contains measures to improve the quality and effectiveness of education, strengthen the provision and availability of health services, improve the minimum income scheme and support social inclusion.

Bulgaria continues to perform well on SDG 17 (Partnerships for the goals). It is stalling on *macroeconomic stability* indicators (SDGs 8 and 16), where the country still needs to catch up with the EU. Bulgaria performs 27.8% better than the EU average on SDG 17 (Partnerships for the goals) indicators. The Bulgarian debt-to-GDP ratio for 2024 was 24.1%, which is well below the EU average of 81.%. While the trust in institutions (SDG 16) increased slightly between 2018 and 2023, the country is lagging the EU average (43% in Bulgaria compared to 62% EU average on the Corruption Perception Index for 2024) and the share of the population with a very good or fairly good perception of the independence of the justice system decreased from 34% in 2019 to 24% in 2024. Regarding sustainable economic growth (SDG 8), the country still needs to catch up with the EU on real GDP per capita even though the indicator continued its increase from EUR 9 670 in 2019 to EUR 11 300 in 2024.

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

Bulgaria faces structural challenges in a wide range of policy areas as identified in the country-specific recommendations (CSRs) addressed to the country as part of the European Semester. They refer, among other things, to renewable energy, energy infrastructure and networks, budgetary framework and fiscal governance, energy efficiency, labour market policies, healthcare and poverty and social inclusion.

The Commission has assessed the 2019-2024 CSRs considering the policy action taken by Bulgaria to date and the commitments in its recovery and resilience plan (RRP). At this stage, Bulgaria has made at least 'some progress' on 58% of the CSRs ([255]), and 'limited progress' on 34% (Table A16.2).

EU funding instruments provide considerable resources to Bulgaria by supporting investments and structural reforms to increase competitiveness, environmental sustainability and social fairness, while helping to address challenges identified in the CSRs. In addition to the EUR 5.7 billion funding from the Recovery and Resilience Facility (RRF) in 2021-2026, EU cohesion policy funds ([256]) are providing EUR 10.7 billion to Bulgaria (amounting to EUR 12.9 billion with national co-financing) for 2021-2027 ([257]) to boost regional competitiveness and growth. Support from these instruments combined represents around 17.3% of 2024 GDP ([258]). The contribution of these instruments to different policy objectives is outlined in Graphs A16.1 and A16.2. This substantial support comes on top of financing provided to Bulgaria under the 2014-2020 multiannual financial framework, which financed projects until 2023 and has had significant benefits for the economy and Bulgarian society. Project selection under the 2021-2027 cohesion policy programmes has accelerated, while significant volumes of investment are yet to be mobilised.

The Bulgarian RRP contains 50 investments and 47 reforms to stimulate sustainable growth and reach climate objectives. A year before the end of the RRF timespan, implementation is on its way with 23% of the funds disbursed, but significantly delayed. At present, Bulgaria has fulfilled 23% of the milestones and targets in its RRP ([259]). The implementation of reforms and investments needs to urgently accelerate to ensure completion of all RRP measures by 31 August 2026. The main bottlenecks related to implementation of EU funds in Bulgaria are insufficient administrative capacity, political instability and a lack of effective and competitive public procurement.

Bulgaria also receives funding from several other EU instruments, including those listed in table A16.1. Most notably, the common agricultural policy (CAP) provides Bulgaria with an EU contribution of EUR 5.6 billion under the CAP strategic plan for 2023-2027 ([260]). Operations amounting to EUR 523,7 million ([261]) have been signed under the InvestEU instrument backed by the EU guarantee, improving access to financing for riskier operations in Bulgaria.

([255])0.03% of the 2019-2024 CSRs have been fully implemented, 26% substantially implemented, and some progress has been made on 32%.

([256])In 2021-2027, cohesion policy funds include the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus and the Just Transition Fund. The information on cohesion policy included in this annex is based on adopted programmes with the cut-off date of 5 May 2025.

([257])European territorial cooperation (ETC) programmes are excluded from the figure.

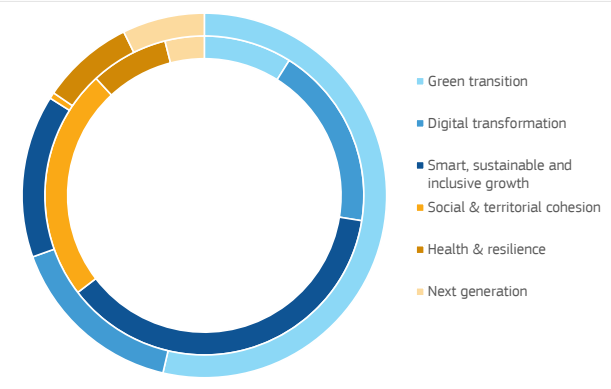
([258])RRF funding includes both grants and loans, where applicable. GDP figures are based on Eurostat data for 2024.

([259])As of mid-May 2025, Bulgaria has submitted one payment request.

([260])An overview of Bulgaria's formally approved strategy to implement the EU's common agricultural policy nationally can be found at: https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans/bulgaria_en

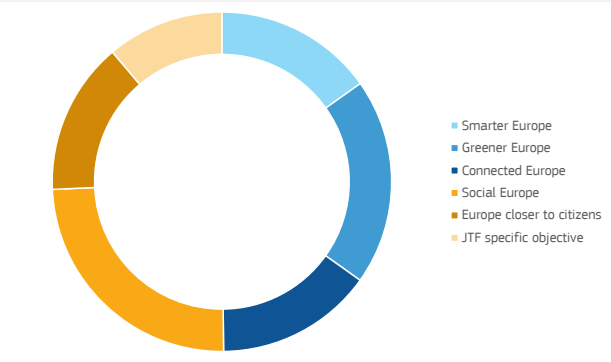
([261])Data reflect the situation on 31.12.2024.

Graph A16.1: **Distribution of RRF funding in Bulgaria by policy field**



(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 circle 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.
Source: European Commission

Graph A16.2: **Distribution of cohesion policy funding across policy objectives in Bulgaria**



Source: European Commission

Cohesion policy funds aim to increase the productivity and competitiveness of Bulgarian firms and improve the business environment. The European Regional Development Fund (ERDF) supports over 10 500 companies and leverages an additional EUR 1.1 billion in private investment. Small and medium-sized enterprises lie at the heart of ERDF support for businesses, and selection procedures align with Bulgaria's smart specialisation strategy by region. In addition, the European Social Fund Plus (ESF+) is investing more than EUR 1 billion to support better access to employment, modernise labour market institutions, and promote life-long learning and gender-balanced labour market participation. The ESF+ provides support to train over 212 000 people for the twin transitions, with an additional 161 000 workers to be supported in improving their digital skills. Nearly 136 000 inactive young people and adults will be included in the labour market through innovative approaches and measures.

Other funds are contributing to competitiveness in Bulgaria, for instance through open calls. The Connecting Europe Facility has financed strategic investments, for example in rail infrastructure, inland waterways and maritime transport, and the development of alternative fuel infrastructure, to enhance connectivity, sustainability, and efficiency within the Trans-European Transport Network (TEN-T); energy market integration, decarbonisation of the energy system and security of energy supply, including the diversification of natural gas sources and routes; as well as increasing the capacity, resilience and security of backbone digital infrastructure, deploying submarine cables, and advancing the deployment of 5G in smart communities. Horizon Europe has supported research and innovation, from scientific breakthroughs to scaling up innovations with Climate, Energy, and Mobility as top priorities for Bulgaria. In Bulgaria, the Technical Support Instrument has focused on supporting the development of the national industrial strategy for the manufacturing and mining sectors and on the design of innovative approaches to address negative demographic trend.

Bulgaria's RRP also contains ambitious measures to improve the business environment and competitiveness. Measures covered by previous payment requests include: implementation of a guarantee instrument to alleviate the challenges faced by businesses in obtaining credit finance to quickly recover from the COVID-19 crisis and create opportunities for business expansion to achieve growth and sustainable development; initiatives to modernise teaching tools and enhance learning in the fields of science, technology, engineering and mathematics (STEM) in Bulgarian schools and initiatives to enhance the effectiveness of higher education across the territory of Bulgaria.

EU funds are playing a significant role in promoting environmental sustainability and green transition in Bulgaria during the current seven-year EU budget (multiannual financial framework). Cohesion policy funds are investing over EUR 3.2 billion in the green transition. Investment in the energy efficiency of buildings is expected to benefit to approximately

3 800 homes and to cover 180 000 square metres of public buildings in urban and rural areas. Simultaneously, the Just Transition Fund is assisting Bulgaria by investing in sustainable energy solutions, training and education, and diversification of the local economy in three coal-affected regions: Stara Zagora, Pernik and Kyustendil. As for the CAP strategic plan, Bulgaria is using 39% of its rural development budget (EUR 555 115 007) for environmental objectives, as well as additional EUR 1 026 590 for eco-schemes. Interventions aim to increase the area under organic farming through support for 200 380 hectares, to improve the quality of soil and water and to support low-intensity agricultural practices. On-farm investments in existing irrigation installations will increase potential water savings to 20% and the reduction in water use to 60% for installations in areas with water bodies that are not in good condition.

Bulgaria's RRP has a comprehensive set of reforms and investments for the green transition. Measures in previous payment requests include reforms to tackle barriers to energy efficiency investment in multi-apartment buildings; the liberalisation of electricity markets in Bulgaria and integration with electricity markets in neighbouring EU Member States; initiatives to promote sustainable urban mobility and investment to increase the use of renewable energy in final household energy consumption.

Promoting fairness, social cohesion and improving access to basic services are among the key priorities of EU funding in Bulgaria. For instance, the ERDF and Cohesion Fund support public services, including the creation of additional capacity in healthcare facilities to host an additional 400 000 people a year, and an additional 53 800 places in education facilities. In addition, Bulgaria has allocated EUR 632 million (more than 25% of its total ESF+ resources) to social inclusion measures, with close to EUR 137 million to combat child poverty. The operations strive towards improving the situation of vulnerable groups, particularly children, older people, people with a disabilityy and Roma. They aim at fostering active inclusion and developing social and health services, including long-term care. A strong focus has been put on implementation of the European Child Guarantee, and actions under the ESF+ aimed at tackling child poverty are expected to benefit over 200 000 children by 2027. Additionally, the most disadvantaged groups, living in poverty and social exclusion, will be supported with 350 000 food packages annually and hot lunch for about 50 000 vulnerable people every month.

Bulgaria's RRP contains several reforms and investments related to fairness and social policies. These include social inclusion initiatives promoting personal mobility and accessibility for people with permanent disabilities; promotion of the social economy through assistance for the development of social and solidarity economy businesses and organisations, and reforms to the minimum income system. To help Bulgaria implement its RRP, in 2024 the TSI assisted with measures to raise the quality of early childhood education and care and reform educational curriculum to ensure quality and excellence.

Table A16.1:**Selected EU funds with adopted allocations - summary data (million EUR)**

Instrument/policy	Allocation 2021-2026		Disbursed since 2021 (1)
RRF grants (including the RepowerEU allocation)	5 688.8		1 368.9
RRF loans	0		0
Instrument/policy	**Allocation 2014-2020 (2)**	**Allocation 2021-2027**	**Disbursed since 2021 (3)** (covering total payments to the Member State on commitments originating from both 2014-2020 and 2021-2027 programming periods)
Cohesion policy (total)	7 924.3	10 705.9	5 307.8
European Regional Development Fund (ERDF)	3 884.5	5 641.4	2 395.7
Cohesion Fund (CF)	2 186.4	1 241.2	1 464.2
European Social Fund (ESF, ESF+) and the Youth Employment Initiative (YEI)	1 853.4	2 625.2	1 079.3
Just Transition Fund (JTF)		1 198.1	368.7
Fisheries			
European Maritime, Fisheries and Aquaculture Fund (EMFAF) and the European Maritime and Fisheries Fund (EMFF)	80.8	84.9	54.1
Migration and home affairs			
Migration, border management and internal security - AMIF, BMVI and ISF (4)	152.9	363.5	105.7
The common agricultural policy under the CAP strategic plan (5)	**Allocation 2023-2027**		**Disbursements under the CAP Strategic Plan (6)**
Total under the CAP strategic plan	5 639.9		1 343.2
European Agricultural Guarantee Fund (EAGF)	4 228.3		1 261.2
European Fund for Agricultural Development (EAFRD)	1 411.6		82.0

(1) The cut-off date for data on disbursements under the RRF is 31 May 2025.
(2) Cohesion policy 2014-2020 allocations include REACT-EU appropriations committed in 2021-2022.
(3) These amounts relate only to disbursements made from 2021 onwards and do not include payments made to the Member State before 2021. Hence the figures do not comprise the totality of payments corresponding to the 2014-2020 allocation. The cut-off date for data on disbursements under EMFAF and EMFF is 29 April 2025. The cut-off date for data on disbursements under cohesion policy funds, AMIF, BMVI and ISF is 5 May 2025.
(4) AMIF - Asylum, Migration and Integration Fund; BMVI - Border Management and Visa Instrument; ISF - Internal Security Fund.
(5) Expenditure outside the CAP strategic plan is not included.
(6) The cut-off date for data on EARDF disbursements is 5 May 2025. The information on EAGF disbursements is based on the Member State declarations until March 2025. Disbursements for the Direct Payments (EAGF) started in 2024.
Source: European Commission

Table A16.2:**Summary table on 2019-2024 CSRs**

Bulgaria	Assessment in May 2025	Relevant SDGs
2019 CSR 1	**Substantial Progress**	
Improve tax collection through targeted measures in areas such as fuel and labour taxes.	Substantial Progress	SDG 8, 16
Upgrade the State-owned enterprise corporate governance by adopting and putting into effect the forthcoming legislation.	Substantial Progress	SDG 9
2019 CSR 2	**Substantial progress**	
Ensure the stability of the banking sector by reinforcing supervision	Substantial progress	SDG 8
, promoting adequate valuation of assets, including bank collateral	Substantial progress	SDG 8
, and promoting a functioning secondary market for non-performing loans.	Substantial progress	SDG 8
Ensure effective supervision and the enforcement of the AML framework.	Substantial progress	SDG 8
Strengthen the non-banking financial sector by effectively enforcing risk-based supervision	Substantial progress	SDG 8
, the recently adopted valuation guidelines	Substantial progress	SDG 8
and group-level supervision.	Substantial progress	SDG 8
Implement the forthcoming roadmap tackling the gaps identified in the insolvency framework.	Substantial progress	SDG 8
Foster the stability of the car insurance sector by addressing market challenges and remaining structural weaknesses.	Substantial progress	SDG 8
2019 CSR 3	**Limited progress**	
Focus investment-related economic policy on research and innovation	Limited progress	SDG 9, 10, 11
, transport, in particular on its sustainability	Limited progress	SDG 10, 11
, water, waste and energy infrastructure and energy efficiency, taking into account regional disparities,	Limited progress	SDG 6, 7, 9, 10, 11, 12, 13
and improving the business environment.	Limited progress	SDG 8, 9
2019 CSR 4	**Some progress**	
Strengthen employability by reinforcing skills, including digital skills.	Some progress	SDG 4, 8
Improve the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups.	Some progress	SDG 4, 8, 10
Address social inclusion through improved access to integrated employment and social services	Some progress	SDG 1, 2, 10
and more effective minimum income support.	Some progress	SDG 1, 2, 10
Improve access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals.	Limited progress	SDG 3

(Continued on the next page)

Table (continued)

2020 CSR 1	**Limited progress**	
In line with the general escape clause, take all necessary measures to effectively address the pandemic, sustain the economy and support the ensuing recovery. When economic conditions allow, pursue fiscal policies aimed at achieving prudent medium-term fiscal positions and ensuring debt sustainability, while enhancing investment.	Not relevant anymore	SDG 8, 16
Mobilise adequate financial resources to strengthen the resilience, accessibility and capacity of the health system, and ensure a balanced geographical distribution of health workers.	Limited progress	SDG 3
2020 CSR 2	**Some progress**	
Ensure adequate social protection and essential services for all	Some progress	SDG 1, 2, 10
and strengthen active labour market policies.	Some progress	SDG 8
Improve access to distance working	Some progress	SDG 8
and promote digital skills	Some progress	SDG 4
and equal access to education.	Limited progress	SDG 4, 8, 10
Address the shortcomings in the adequacy of the minimum income scheme.	Some progress	SDG 1, 2, 10
2020 CSR 3	**Some progress**	
Streamline and accelerate the procedures to provide effective support to small and medium-sized enterprises and self-employed,	Substantial progress	SDG 8, 9
also ensuring their continued access to finance and flexible payment arrangements.	Substantial progress	SDG 8, 9
Front-load mature public investment projects	Limited progress	SDG 8, 16
and promote private investment to foster the economic recovery.	Some progress	SDG 8, 9
Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy and resources,	Some progress	SDG 6, 7, 9, 12, 13, 15
environmental infrastructure	Limited progress	SDG 7, 9, 13
and sustainable transport, contributing to a progressive decarbonisation of the economy, including in the coal regions.	Limited progress	SDG 10, 11
2020 CSR 4	**Some progress**	
Minimise administrative burden to companies by improving the effectiveness of public administration	Some progress	SDG 16
and reinforcing digital government.	Some progress	SDG 9, 16
Ensure an effective functioning of the insolvency framework.	Some progress	SDG 8
Step up the efforts to ensure adequate risk assessment, mitigation, effective supervision and enforcement of the anti-money laundering framework.	Substantial progress	SDG 8, 16

(Continued on the next page)

Table (continued)

2021 CSR 1	**Not relevant anymore**	
In 2022, pursue a supportive fiscal stance, including the impulse provided by the Recovery and Resilience Facility, and preserve nationally financed investment. Keep the growth of nationally financed current expenditure under control.	Not relevant anymore	SDG 8, 16
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Not relevant anymore	SDG 8, 16
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, on both the revenue and expenditure sides of the budget, and to the quality of budgetary measures in order to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, in particular investment supporting the green and digital transition.	Not relevant anymore	SDG 8, 16
Give priority to fiscal structural reforms that will help provide financing for public policy priorities and contribute to the long-term sustainability of public finances, including, where relevant, by strengthening the coverage, adequacy and sustainability of health and social protection systems for all.	Not relevant anymore	SDG 8, 16
2022 CSR 1	**Not relevant anymore**	
In 2023, ensure that the growth of nationally financed primary current expenditure is in line with an overall neutral policy stance, taking into account continued temporary and targeted support to households and firms most vulnerable to energy price hikes and to people fleeing Ukraine. Stand ready to adjust current spending to the evolving situation.	Not relevant anymore	SDG 8, 16
Expand public investment for the green and digital transitions, and for energy security taking into account the REPowerEU initiative, including by making use of the Recovery and Resilience Facility and other Union funds.	Not relevant anymore	SDG 8, 16
For the period beyond 2023, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions.	Not relevant anymore	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 4 May 2022.	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.	
Submit the 2021-2027 cohesion policy programming documents with a view to finalising the negotiations with the Commission and subsequently starting their implementation.	Progress on the cohesion policy programming documents is monitored under the EU cohesion policy.	
2022 CSR 3	**Limited progress**	
Reduce overall reliance on fossil fuels and fossil fuel imports	Limited progress	SDG 7, 9, 13
by accelerating the development of renewables,	Some progress	SDG 7, 9, 13
and diversify gas supply sources and routes by increasing interconnections with neighbouring countries.	Substantial progress	SDG 7, 9, 13
Step up efforts to reduce energy demand by increasing energy efficiency in industry and in private and public building stock.	No progress	SDG 7
Promote new sustainable solutions in centralised district heating.	No Progress	SDG 7
2023 CSR 1	**Some progress**	
Wind down the emergency energy support measures in force, using the related savings to reduce the government deficit, as soon as possible in 2023 and 2024. Should renewed energy price increases necessitate new or continued support measures, ensure that such support measures are targeted at protecting vulnerable households and firms, are fiscally affordable and preserve incentives for energy savings.	Some progress	SDG 8, 16
Ensure prudent fiscal policy, in particular by limiting the nominal increase in nationally financed net primary expenditure in 2024 to not more than 4,6 %.	Some progress	SDG 8, 16
Preserve nationally financed public investment and ensure the effective absorption of grants under the Facility and of other Union funds, in particular to foster the green and digital transitions.	Limited progress	SDG 8, 16
For the period beyond 2024, continue to pursue a medium-term fiscal strategy of gradual and sustainable consolidation, combined with investments and reforms conducive to higher sustainable growth, in order to achieve a prudent medium-term fiscal position.	Substantial progress	SDG 8, 16

(Continued on the next page)

Table (continued)

2023 CSR 2		
Ensure an effective governance structure and strengthen the administrative capacity to allow for a swift and steady implementation of its 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 is monitored in the context of the Cohesion Policy of the European Union.	
2023 CSR 3	Limited progress	
Reduce reliance on fossil fuels and	Limited progress	SDG 7, 9, 13
accelerate the energy transition through faster deployment of renewable energy sources, while ensuring storage capacities to increase the flexibility of the energy system.	Limited progress	SDG 7, 9, 13
Strengthen the electricity grid infrastructure and improve the management thereof by streamlining the connection procedures and introducing smart grid elements.	Limited progress	SDG 7, 9, 13
Continue efforts to increase interconnection with neighbouring countries.	Some progress	SDG 7, 9, 13
Accelerate building renovation in order to incentivise energy efficiency and address energy poverty.	Limited progress	SDG 1, 2, 7, 10
Promote new future-proof solutions in district heating and	No progress	SDG 7
sustainable urban transport, and accelerate development of railway infrastructure.	Limited progress	SDG 11
Step up policy efforts aimed at the provision and acquisition of skills and competences needed for the green transition.	Limited progress	SDG 4
2024 CSR 1	Full implementation	
Submit the medium-term fiscal-structural plan in a timely manner.	Full implementation	SDG 8, 16
In line with the requirements of the reformed Stability and Growth Pact, limit the growth in net expenditure in 2025 to a rate consistent with, inter alia, maintaining the general government deficit below the 3% of GDP Treaty reference value and keeping the general government debt at a prudent level over the medium term.	Full implementation	SDG 8, 16
2024 CSR 2		
Significantly accelerate the implementation of cohesion policy programmes and the recovery and resilience plan, ensuring completion of reforms and investments by August 2026, by improving the functioning and boosting the capacity of the public administration, including at the regional level, increasing the quality of procurement procedures and strengthening the independence and functioning of regulators. Rapidly finalise the REPowerEU chapter. In the context of the mid-term review of cohesion policy programmes, continue focusing on the agreed priorities, while considering the opportunities provided by the Strategic Technologies for Europe Platform initiative to improve competitiveness.	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. Progress with the cohesion policy is monitored in the context of the Cohesion Policy of the European Union.	
2024 CSR 3	Some progress	
Improve education and training, including for disadvantaged groups, by enhancing teacher training and implementing competence-based teaching and learning.	Some progress	SDG 4, 10, 8
Address labour shortages and improve workers' skills to boost competitiveness and support the green transition.	Some progress	SDG 8, 4
2024 CSR 4	Limited progress	
Reduce reliance on fossil fuels and accelerate the clean energy transition, particularly by shifting to renewable energy in district heating and deploying wind installations. Ensure sufficient storage capacities to increase the flexibility of the energy system. Strengthen the electricity grid infrastructure by introducing smart grid elements and increasing interconnection with neighbouring countries.	Limited progress	SDG 7, 8
Address energy poverty by implementing targeted measures to reduce the share of population unable to keep their homes adequately warm.	Limited progress	SDG 7
Promote the deployment and uptake of sustainable urban and railway transport, including by accelerating the development of the necessary infrastructure.	Limited progress	SDG 11

Source: European Commission

Regional disparities in terms of GDP per head remain very high in Bulgaria. They go hand in hand with gaps in labour productivity, demographics, education and training, employment, wages, infrastructure endowment, competitiveness and research and innovation performance. These indicators are all typically worse in the north of the country. In addition, Bulgaria continues to experience strong disparities between the Yugozapaden region, where the capital Sofia is located and the other regions. However, there are also strong disparities within the Yugozapaden region.

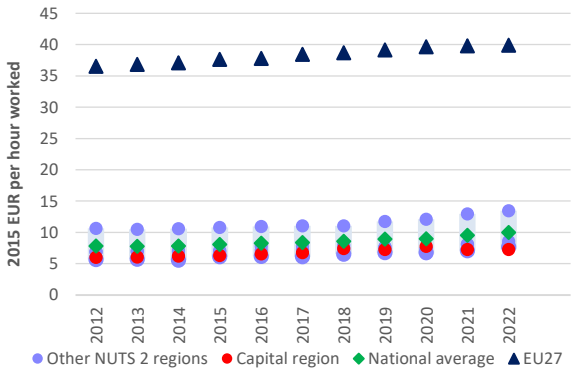
GDP (purchasing power standard - PPS) per head in 2023 varied between 102% of the EU average in the Yugozapaden region and 41-54% in all other regions, with one out of the three Northern and one out of the three Southern regions at the bottom. Economic activity in Bulgaria remains highly concentrated in the Yugozapaden region which generates about half of the national GDP. This region's (generally better) performance is largely driven by that of the NUTS 3 region of Sofia (137%), whereas the other NUTS 3 regions within the Yugozapaden region are largely comparable to the rest of the country.

Competitiveness

Labour productivity has steadily increased in Bulgaria since 2010, and more quickly than the EU average. Real productivity growth during 2013-2022 was high in all Bulgarian regions. Yugoiztochen showed the lowest growth in real productivity per hour worked at 1.5% per year, but this still exceeds the EU average of 0.9% (Graph A17.1).

Nevertheless, labour productivity is still lagging behind the EU average. In 2022, Bulgaria had the lowest GDP (PPS) per hour worked in the EU, equal to around 55% of the EU average. The country's highest level of labour productivity is in the Yugozapaden region at 71%, considerably higher than in Severozapaden, Severen tsentralen and Yuzhen tsentralen, the least productive regions, all at 41% of the EU average. The capital Sofia is home to 20% of the population, and it is attracting more and more highly skilled people, providing them with more opportunities for business development.

Graph A17.1: **Labour productivity per hour**



Unit: Real GDP per hour worked (EUR, 2015 prices)
Source: ARDECO (JRC)

Employment in knowledge-intensive activities and innovative companies has increased significantly in the country since 2017. However, employment in high-technology sectors and R&D expenditure remain very low in some of the less developed regions. In Yugoiztochen, Severozapaden and Severoiztochen only between 1.4% and 2.4% of the workers were employed in high-technology sectors in 2024. At national level, R&D expenditure in 2024 was 33.3% of the EU average in the business sector and 19.7% ([262]) in the public sector, but there are variations by region. R&D expenditure in 2022 was between 0.3% and 0.4% of GDP in all regions except the Yugozapaden region, where it was much higher at 1.2%.

The ICT uptake remains low in Bulgaria. In 2021, only 26.6% of the total population used the internet to interact with public authorities compared to the EU average of 58.5%. The Yugozapaden region had the highest share (36.3%), while in Severozapaden and Yugoiztochen the shares were 17.7% and 18.5%, respectively. Improving the country's digital infrastructure and environment can provide opportunities, especially to young people across the country, to increase the productivity of local businesses, innovation, and access to digital services.

Bulgaria has made significant progress in delivering online services to businesses and developing digital technologies. However, significant challenges persist as regards basic and

([262]) European Innovation Scoreboard 2024, Country Profile Bulgaria.

Table A17.1:**Selection of indicators at regional level in Bulgaria**

	GDP per head (PPS)	Real GDP per head growth	Productivity - GDP per person employed (PPS)	Real productivity growth (per person employed)	Productivity - GDP per hour worked (PPS)	Real productivity growth (per hour worked)	Human resources in science and technology (core)	Employment in knowledge-intensive services	European Quality of Government Index (1)	Population growth	At-risk-of-poverty or social exclusion	Access to alternative fuel infrastructure	Greenhouse gas emissions
	Index EU-27 = 100	Average annual % change	Index EU-27 = 100	Average annual % change	Index EU-27 = 100	Average annual % change	% of total employment	% of total employment	EU-27=0	Average annual change per 1000 residents	% of total population	Number of electric vehicles charging points within 10 km	tCO2eq. per person
	2023	2014-2023	2023	2014-2023	2022	2013-2022	2024	2024	2024	2014-2023	2024	2022	2023
European Union (27 MS)	100	1.6	100	0.6	100	0.9	48.3	41.3		1.7	21.0	287	7.1
Bulgaria	64	3.7	57	2.5	55	2.3	38.2	32.3		-9.9	30.3	49	8.3
Severozapaden	42	4.1	54	4.1	41	1.9	30.7	30.7	-2.42	-18.6	35.8	3.5	8.0
Severen tsentralen	44	4.0	45	3.2	41	2.5	32.2	24.6	-0.56	-17.8	36.6	6.7	7.0
Severoiztochen	50	2.9	53	2.9	48	2.1	35.4	31.0	-0.97	-11.2	26.3	23	10.2
Yugoiztochen	54	1.4	59	1.3	57	1.5	30.2	26.2	-1.33	-9.3	35.8	13	19.5
Yugozapaden	102	4.0	66	1.4	71	2.4	50.1	40.6	-1.93	-4.1	20.1	129	4.9
Yuzhen tsentralen	41	3.8	43	3.6	41	3.1	32.1	28.0	-2.26	-9.2	38.3	16	4.8

(1) University of Gothenburg

Source: Eurostat and JRC

advanced digital skills (see also Annex 12) and closing urban-rural divides. Although it would be beneficial if Bulgarian firms made progress in the take-up of advanced digital technologies, significant progress has been made in developing strategic technologies such as chips and quantum computing ([263]). In addition, Bulgaria has advanced considerably in building competitive capabilities in green products, including clean-tech manufacturing over the last two decades ([264]).

There are opportunities to further accelerate the implementation of digital and deep-tech solutions, and clean technologies, which is important for the long-term sustainability and competitiveness of Bulgarian regions. This can be done by: i) investing in research, development, and manufacturing of critical technologies, strengthening value chains, and ii) addressing skills shortages (see Annex 12).

Bulgaria has significant potential to drive convergence in innovation across regions, by encouraging stronger public-private collaboration, strengthening technology transfer capacity, and increasing the market presence of innovative small to medium-sized enterprises. With their capacity to drive regional innovation and create high value added jobs, the centres of excellence and competence could play a central role in achieving regional competitiveness and spurring convergence in innovation across regions.

The key growth prerequisites such as transport infrastructure and human capital ([265]) are still lacking in many of the country's less developed regions. In 2024, in the Severozapaden, Yugoiztochen and Yuzhen tsentralen regions, less than 30% of people aged 25-64 had a tertiary degree. By contrast, in the Yugozapaden region the proportion (42.9%) was higher than the EU average (36.1%). This can be attributed to more opportunities for studying at universities in the capital, large differences in wages, as well as more ample job opportunities in Sofia for people with a higher education. The upgrading and modernising of the transport network is progressing very slowly and needs to be further developed. In the Yugozapaden region, 74% of the population within a 120 km radius could be reached in less than 90 minutes by car in 2021. This ratio is considerably lower in the three northern regions of Severozapaden (30%), Severen tsentralen (36%) and Severoiztochen (46%).

All Bulgarian regions rank below the EU average in terms of competitiveness (Map A17.1)**.** The Regional Competitiveness Index (RCI) ([266]) value is highest in the Yugozapaden

([263])Bulgaria 2024 Digital Decade country report.

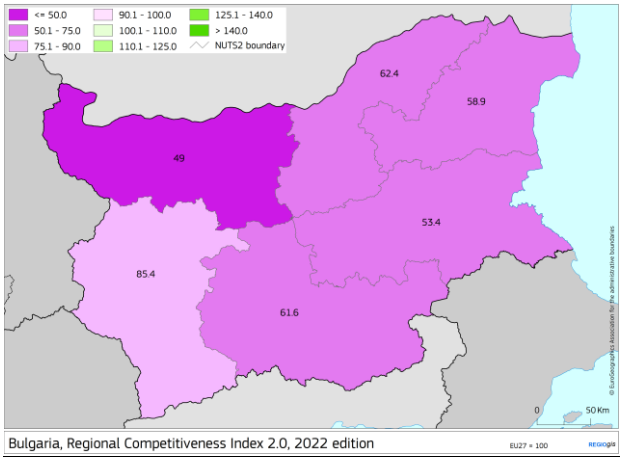
([264])Error! Hyperlink reference not valid.

([265])Human capital encompasses knowledge, skills and competences, highlighting the importance of education, training and experience in building a workforce that drives economic growth, innovation and productivity.

([266])Inforegio - EU Regional Competitiveness Index 2.0 - 2022 edition.

region (85) while the lowest values are found in Severozapaden (49) and Yugoiztochen (53). While the Yugozapaden region consistently outperforms the other regions for the various sub-indices of the RCI, the divide is particularly striking as regards innovation, where the Yugozapaden region scores 75, compared to only 28 in both Yugoiztochen and Severozapaden. This is mainly due to the contribution of the capital city, which offers more attractive conditions for firms to operate or develop and for residents to live and work in.

Map A17.1: **Regional Competitiveness Index 2.0, 2022 edition**



Bulgaria, Regional Competitiveness Index 2.0, 2022 edition

Source: DG REGIO, JRC based on Eurostat

Social fairness

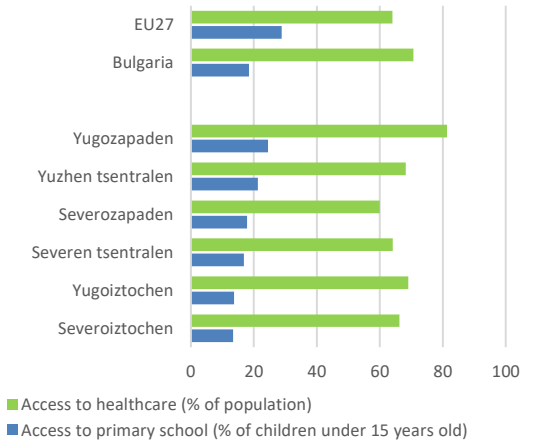
Bulgaria's population, particularly in some of its less developed regions, is falling rapidly. Between 2014 and 2023, the country's population decreased by 9.9 per 1 000 residents on average per year ([267]). In some regions, the population loss is extremely high. In Severozapaden and Severen tsentralen, the population shrank by 18.6 and 17.8 per 1 000 residents, respectively. In comparison, the population in the Yugozapaden region decreased by only 4.1 per 1 000 residents in the same period and the Yugozapaden region was the only region to show net in-migration, albeit modest, during this period. Nevertheless, there are severe intraregional disparities when it comes to the population of the separate NUTS 3 regions within the Yugozapaden region. While in the NUTS 3 region of Sofia (capital) the population has decreased by only 0.2 per 1 000 residents on average per year, the index for the regions of Kyustendil, Pernik and Blagoevgrad – 18.1, 13.5 and 9.2, respectively – is comparable to those in the northern regions.

The unemployment rate in Bulgaria (4.2%) is lower than the EU average (5.9%), but there are wide regional disparities. In 2024, the unemployment rate was as low as 2.8% in Yugozapaden region and 2.9% in Yuzhen tsentralen, whereas it reached 9.7% in Severozapaden. The employment rate in this region is also particularly low, at 69.3% compared to the national average of 76.8%. This is the country's least developed region offering limited opportunities for attractive jobs with sufficient salaries and business development. Therefore, highly skilled people are instead moving to the capital or other regions. Moreover, poverty and social exclusion risks continue to be high (see Annex 11), and there are considerable disparities between rural and urban areas. In 2024, people living in rural areas were almost twice as likely to face poverty or social exclusion risks than those residing in cities (40.8% vs 22.1%).

Bulgarian regions show mixed results in terms of access to essential services (Graph A17.2). The proportion of people in rural areas in all Bulgarian regions who can access healthcare services within a 10-minute drive is below the EU average, ranging from 13% to 25% (EU average: 29%). The rate of early leavers from education and training is significantly higher in rural areas (see Annex 12) and the Programme for International Student Assessment (PISA) test showed a large performance gap between schools in rural areas and urban areas (e.g. 79 score points in mathematics in 2022, EU: 46), reflecting challenges in accessing quality education and the impact of socio-economic factors on educational outcomes. However, better access to essential services is expected thanks to the completion of the core or comprehensive parts of the trans-European Transport network, the improvement of transportation services, and actions to raise the quality of education.

([267])ARDECO (tables: SNPTN, SNPCN, SNMTN).

Graph A17.2: **Access to healthcare and primary education, 2023**



Units: Percentage of population that can reach nearest hospital within 10 minutes by car (EU-27).
Percentage of children under 15 who can reach primary school within 15-minute walk (EU-24).
Source: Eurostat

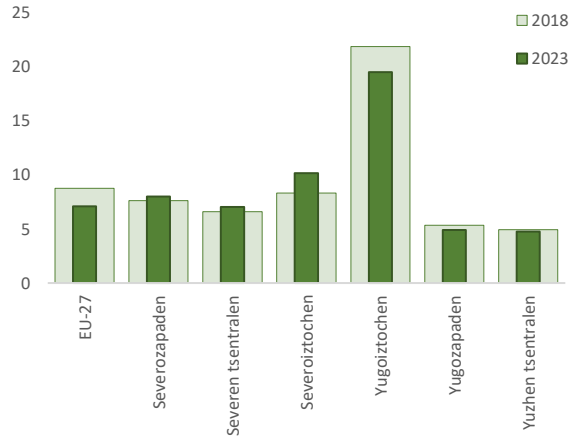
Sustainability

Greenhouse gas emissions per person in Bulgaria reached 8.3 tonnes per year in 2023, which is above the EU average of 7.1 (Graph A17.3). Moreover, emissions have decreased by only 4% since 2018, compared to an EU average decrease of 19%. In the three northern regions, emissions even increased during this period. The variation in emissions across regions continued to be very large in 2023, ranging from 4.8 tonnes per person in Yuzhen tsentralen to 19.5 in Yugoiztochen, where the most polluting mining industries are located.

The decarbonisation of energy production is a key regional challenge for Bulgaria. It comes with challenges and opportunities for the human capital and renewable energies. There are many ways to tackle some of the challenges faced by the just transition regions of Stara Zagora, Kyustendil and Pernik, for example: i) developing photovoltaic parks with electrolysers and/or energy storage systems; ii) establishing industrial parks for clean technologies; iii) creating hydrogen-based value chains; iv) using green hydrogen.

Bulgarian regions perform relatively poorly in terms of access to alternative fuel infrastructure. ([268]) In 2022, in the Yugozapaden region, the average number of electric vehicle charging points within 10 km of people's homes was 129, less than half the EU average value of 287, and much lower even in the other regions (between 4 and 23). Improving access to alternative fuel infrastructure in urban centres across the country and introducing more incentives for buying electric cars could help make mobility more sustainable and reduce emissions.

Graph A17.3: **Greenhouse gas emissions per capita**



Unit: Tonnes per person per year
Source: Eurostat and JRC

([268])Indicators of access to alternative fuel infrastructure are based on calculations by DG REGIO and the JRC, using data from the European Alternative Fuels Observatory (EAFO), Eurostat, TomTom and Eco-Movement.