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Analysis of the recovery and resilience plan of Bulgaria

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

on the approval of the assessment of the recovery and resilience plan for Bulgaria

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1. EXECUTIVE SUMMARY

The COVID-19 pandemic has interrupted several years of solid economic growth. This robust growth (3.6% on average over the five preceding years) was underpinned by growing private consumption and positive labour market developments. Still, Bulgaria has been slow to catch-up with the rest of the EU and it has the lowest level of income per capita (55 % of the EU average in PPP). After a fall by 4.4% in 2020, real GDP rebounded by 4.2% in 2021, driven by household consumption and goods export. This economic expansion is projected to continue with GDP set to grow by 3.7% in 2022 and 3.9% in 2023 according to the European Commission Winter Forecast, which however did not include the impact from the war in Ukraine. More adverse labour market developments have been avoided largely by the swift introduction of short-time work schemes, partly supported through the related European instrument for temporary support (SURE), as well as the EU's recovery assistance for cohesion and the territories (REACT-EU). As a result of the contraction in economic activity and the support measures, the government balance recorded a deficit of 4% of GDP in 2020. According to the latest European Commission forecast, this was followed by a slightly improved deficit of 3.6% in 2021, thanks to the rebound of the economic activity. Large inflows of RRF and other EU funds are expected to support the activity in the coming years. The general government debt is estimated to have increased to around 27% of GDP in 2021.

Although Bulgaria's economy has rebounded from the immediate COVID-19 shock, structural vulnerabilities continue to weigh on its convergence prospects. Bulgaria has one of the highest levels of poverty and income inequality and a weak performing health system characterised by a limited access to healthcare services. Strong regional disparities, a shrinking working-age population and rising labour shortages, particularly in sectors demanding specific skills, weigh on productivity growth and upward social convergence in the country. Despite reform efforts, the quality and inclusiveness of education remain a concern, with persistently high rates of early school leaving, low levels of basic and digital skills, and a strong impact of the socioeconomic status on students' performance. The business environment is generally not supportive of investment, also due to many institutional shortcomings. Bulgaria has been unable to create a solid track record so far in fighting corruption, which would help to build up the currently very low levels of public trust in institutions. The uptake of digital technologies is slow in both public and private sectors and Bulgaria ranks last among EU Member States in digital skills. The country is also underperforming in the area of research and innovation¹. Finally, Bulgaria remains the most energy- and greenhouse gas-intensive economy in the EU by a wide margin. For many years, there has been a strong reluctance to commit to or even plan a coal phase out. This has become urgent to ensure that the high societal and economic costs of the transition

¹ European innovation scoreboard (https://ec.europa.eu/info/research-and-innovation/statistics/performance-indicators/european-innovation-scoreboard_en)

are minimised. To sum up, broad-based structural reforms are needed to boost productivity and to achieve a sustainable and inclusive growth.

Bulgaria's Recovery and Resilience Plan ("Plan") has an estimated total cost of EUR 6.9 billion. It is structured around twelve components grouped in four policy pillars: i) Innovative Bulgaria; ii) Green Bulgaria; iii) Connected Bulgaria; and iv) Fair Bulgaria. It consists of 103 individual measures (47 reforms and 56 investments). The estimated total cost of the plan is above the non-repayable financial support available to Bulgaria under the RRF Regulation of EUR 6.27 billion. Bulgaria has not requested any loans under the RRF Regulation.

Bulgaria's Plan represents to a large extent a comprehensive and adequately balanced response to the economic and social situation in the country. Therefore, it contributes appropriately to the six policy pillars referred to in Article 3 of the Regulation². The Plan strongly supports the green transition and aims to address the major societal and environmental challenge of decarbonisation of the economy. The Plan is expected to greatly accelerate the deployment of the renewable energy sources and to cut by 40% the greenhouse gas emissions from power production. It includes measures for the decarbonisation and the digitalisation of the transport sector, promoting low-emission mobility and use of less polluting modes of transport, and for the improvement of road safety. Moreover, the Plan includes a host of measures supporting the digital transition that are spread over many components, including the large-scale roll-out of very high capacity networks across the country, digitalisation of the public administration, education and training systems, and judiciary. Additionally, a number of measures will contribute to a smart, inclusive and sustainable growth, including through reforms and investments for improving business environment, fostering innovation and R&D and supporting SMEs and the cultural and creative sectors. Social cohesion is strengthened through the reform of the minimum income scheme and the modernisation of the Employment and Social Assistance agencies, as well as by providing support to the social and solidarity economy. The Plan also contains measures for improving education and skills, lifelong learning and vocational training, and reforming the system of social services, including the long-term care. As one of the critical sectors for crisis preparedness and resilience, the health sector is specifically supported by a dedicated component. The Plan also includes measures for the next generation, such as the mandatory inclusion of four-year olds in pre-school education, and investments in the educational infrastructure, including school laboratories and youth centres.

The Plan constitutes a comprehensive package of reforms and investments addressing all or a significant subset of the challenges and recommendations identified in the European Semester. The Plan addresses the country-specific recommendations in the social field with measures to foster social inclusion, which are expected to improve the adequacy and coverage of

² Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (hereafter 'the Recovery and Resilience Facility Regulation') (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0241>).

the minimum income scheme, and with measures to move forward the integration of employment and social services. Other measures addressing the country-specific recommendations focus on skills acquisition - in particular digital skills, on improving the labour market relevance of the education and lifelong-learning systems and on widening the offer of healthcare services across Bulgaria. These actions can contribute to reach the objectives and progress further on the European Pillar of Social Rights and its Action Plan by 2030. Furthermore, through advancing the decarbonisation of the energy sector, increasing the overall energy efficiency, and implementing actions on sustainable transport and digital infrastructure and services, the Plan addresses country-specific recommendations in those areas. Finally, the Plan contains far-reaching measures to improve the efficiency of the public administration and justice system, to prevent, detect and correct corruption, to improve the business environment and to improve the research and innovation system.

The Plan contributes to climate objectives for 58.9% (close to EUR 3.7 billion), thus over-achieving the climate target of 37% by a large margin. Reforms and investments in the Plan aim to accelerate the decarbonisation of the energy sector by setting out a clear commitment to approve by 2023 a calendar to phase out coal and lignite power generation as soon as possible and at the latest by 2038, as well as by facilitating the deployment of renewables and alternative energy sources, such as green hydrogen and biogas. The Plan also includes reforms aiming to establish competitive wholesale and retail markets through a gradual deregulation of electricity prices by 2025 and to strengthen the governance of energy SOEs. The biodiversity component of the Plan contains measures aiming at protecting and restoring ecosystems and natural habitats and species of European and national importance. The Plan is expected to enhance the sustainability of the transport sector by reforming the road and railways sectors, promoting zero-emission vehicles, enhancing road safety, and investing in railways, intermodal transport and sustainable urban mobility. This includes investments in the modernisation and digitalisation of railways, new zero-emission rolling stock, deployment of the European Rail Traffic Management System, a new intermodal terminal in Ruse and clean public transport (Sofia metro and a pilot programme for sustainable urban mobility).

The recovery and resilience plan contributes to the digital objective for 25.8% (EUR 1.6 billion), thus achieving the digital target of 20%. Investments in digital connectivity include the roll-out of very high capacity networks in rural and sparsely populated areas, which are lagging behind in terms of digital inclusion. The reforms included in the Plan aim to contribute to the development and implementation of an effective policy and regulatory framework, the efficient use of the radio frequency spectrum for the development of 5G networks and services and the creation of a favourable investment environment. The Plan also includes a comprehensive package of reforms and investments to support the digitalisation of the public administration, including the judiciary, unlocking the potential in areas such as justice, health, agriculture, environment, culture, employment and social protection. The Plan includes measures to increase the level of digital skills of the population. The Plan also supports the digitalisation of the transport and energy sectors, thus

contributing to their progressive decarbonisation. As regards the private sector, the investments in the digital transformation of the business processes and increased cybersecurity capabilities should contribute to improvements in their efficiency and productivity. Moreover, digital technologies and infrastructure are expected to enhance Bulgaria's innovation capacity, with a particular focus on green and digital technologies.

The implementation of the investments and reforms in the Plan is expected to have a lasting impact, primarily by strengthening the public institutions and by structural reforms in key policy areas. Ambitious reforms in the judiciary and anti-corruption bodies combined with administrative reforms in key areas such as research and innovation, green transition and digital transformation, aim to improve the quality of public services. In addition, policy changes to reduce existing barriers to business activity and reforms to address long-standing problems in education, healthcare and social protection complement investments in these areas. Overall, the Plan addresses many of the country's core problems in the areas of environmental sustainability, business environment, education and skills, healthcare, social and labour market. As a result, the implementation of the Plan is expected to lead to a faster, more sustainable and more inclusive economic growth.

The National Fund Directorate of the Ministry of Finance is designated as the coordinating unit for the implementation and control of the Plan. The Directorate will act as a focal point at the national level for the preparation of common rules and procedures and for carrying out checks and controls on the implementation of milestones and targets. The Economic and Financial Policy Directorate at the Ministry of Finance will assist the National Fund Directorate by reviewing and confirming the implementation of reforms included in the Plan.. The proposed qualitative and quantitative indicators used for the milestones and targets are sufficiently clear, realistic and comprehensive to ensure that their completion can be traced and verified. Where compliance with the Do No Significant Harm principle cannot be ascertained in advance, the milestones and targets lay out adequate safeguards for compliance. The large number of milestones and targets appears commensurate to the size of the reform and investment package. To support a successful implementation of the Plan, the administrative and implementation capacity of the implementing bodies will be reinforced and closely monitored.

Overall, the costing information and supporting documents provided appear to be reasonable and plausible. The Plan provides adequate explanations on the methodology used for establishing the cost estimates for the majority of measures. The justification provided by Bulgaria on the amount of the estimated total costs of the Plan is to a medium extent reasonable, plausible, and in line with the principle of cost-efficiency. The total cost is commensurate to the expected national economic and social impacts. For all measures, calculations behind the cost estimates are provided, and these are generally clear and understandable, though in certain cases, more details could have been provided to explain how the final budget was computed. The estimated cost of reforms and investments included in the Plan is in line with – and consistent with – existing information for similar reforms and investments, including those funded by other Union

programmes, if available. The cost estimates of the Plan have been reviewed by the Bulgarian Executive Agency for ‘Audit of European Union Funds’, which provides further assurance of their reliability. Bulgaria provided sufficient information and evidence that the amount of the estimated cost of the reforms and investments of the Plan is not covered by existing or planned Union financing.

The Plan adequately describes the system for the implementation of the audits and controls.

The internal control system described in the Plan is based on robust processes and structures and clearly identifies actors and their roles and responsibilities for the performance of the internal control tasks. The internal control system and other relevant arrangements, including for the collection and publication of data on final recipients are expected to prevent, detect and correct corruption, fraud, conflicts of interest when using the funds under Regulation (EU) 2021/241 and to avoid double funding under that Regulation and other Union programmes. A repository system for monitoring of the implementation of the Plan is to be put in place and operational by the time of the first payment request. The proposed measures give assurance that there is an adequate level of control to prevent, detect, and correct irregularities identified when using RRF funds, provided that the pending points on the repository system and administrative capacity are addressed before the first payment request, as required by the dedicated milestones.

The Plan’s twelve components represent a package of coherent reforms and investments.

The Plan is structured around four coherent pillars supporting the recovery of the Bulgarian economy, the contribution to the green and digital transition, and the enhanced resilience towards more sustainable and inclusive growth. Each pillar is built around components which include overall consistent packages of mutually reinforcing and complementary reforms and investments. The measures in each of the individual components are mutually reinforcing, as investments are accompanied by reforms that aim to resolve structural underlying challenges.

Table 1: Assessment per criterion

(1) Balanced Response	(2) CSRs	(3) Growth, jobs...	(4) DNSH	(5) Green target	(6) Digital target	(7) Lasting impact	(8) M&T	(9) Costing	(10) Control System s	(11) Coherence
A	A	A	A	A	A	A	A	B	A	A

2. RECOVERY AND RESILIENCE CHALLENGES: SCENE-SETTER

2.1. Macroeconomic outlook and developments since the 2020 country report

At the onset of the COVID-19 pandemic, economic conditions in Bulgaria were favourable. The positive trend of robust economic growth in the last five years (3.6% on average) was underpinned by growing private consumption and positive labour market developments. Still, Bulgaria has been slow to catch-up with the rest of the EU and the modest positive trend has been interrupted by the COVID-19 outbreak.

Bulgaria has also had three rounds of parliamentary elections in 2021, ushering in a period of political instability. After the ordinary parliamentary elections in May and a snap election in July, a new round of combined presidential and parliamentary elections on 14 November has finally led to the formation of a government. The government backed by a four-party coalition was approved by the Parliament on 13 December.

The Bulgarian economy is gradually rebounding from the pandemic-induced shock. After falling by 4.4% in 2020, real GDP rebounded by 4.2% in 2021, driven by household consumption and goods export. This economic expansion is projected to continue. Private consumption remained relatively unfazed in 2020 given that the industries most hit by the supply restrictions, e.g. accommodation and catering services, account for a much smaller share of consumer spending in Bulgaria than in other EU Member States. In addition, Bulgaria has had generally less stringent restrictions in the second half of the year. In 2021, private consumption grew robustly, supported by the job retention schemes, positive wage dynamics, low household debt, and improvements in consumer sentiment. Investment growth remained subdued in 2020 and turned negative in 2021. The contraction in capital formation was driven by high uncertainty, combined with reduced business activity in the sectors most affected by the pandemic. The exports of goods have fully recovered. They reached their pre-pandemic level already at the beginning of 2021, following a sharp drop at the onset of the pandemic in Q2-2020. In contrast, in 2021 the exports of services, which are normally dominated by revenue from foreign tourism, were still 50% below their 2019 levels.

The volatility in energy and food prices has been driving the overall inflation in 2020 and 2021. This is expected to remain in the next two years. Effects of hikes in energy prices are exacerbated by the energy intensity of the economy. The price for electricity on the free market has increased four-fold and has become more volatile since mid-2021, while the regulated prices have been kept fixed. As the economy is still around three times more energy intensive than the EU average, the indirect effect on the producer and final consumer prices is more pronounced than in most of the other EU Member States. According to the Commission's Winter 2022 Economic Forecast, Annual HICP inflation is expected to reach 6.3% in 2022 and to fall to 3.9% in 2023.

The economic expansion is projected to continue. According to the Commission's Winter 2022 Economic Forecast, which was finalised before the start of the war in Ukraine, GDP is forecasted to grow at 3.7% in 2022 and 3.9% in 2023. Investment rates are projected to increase with an important contribution from investment projects financed by the Plan. Exports are also set to contribute to the economic growth, following the evolution of external demand. Private consumption is expected to grow steadily, albeit at a more moderate pace compared to the high 2021 rates, amid expected consumer price increases. The dynamic growth in nominal disposable income, supported by the favourable labour market situation and increased social transfers, is forecast to offset the negative effect of higher consumer prices on private consumption both in 2022 and 2023.

Unemployment is stabilising after a surge at the onset of the pandemic. Prior to the pandemic, unemployment had reached historical lows, before jumping to 6.6% in Q2-2020 as the Covid-19 crisis took hold. Since Q3-2021 it has levelled off and in January 2022 it stood at 4.7%, (seasonally adjusted). As expected, the largest share of job losses was recorded in the accommodation and food services sectors. In parallel, the labour market participation rate has dropped on average by around 1 pp since the beginning of the COVID-19 crisis, as some dismissed workers may have moved at least temporarily into inactivity. More adverse labour market developments have been avoided largely by the swift introduction of short-time work schemes and the support received through SURE, the EU's temporary support scheme for national short-term work schemes, and REACT-EU, the EU's recovery assistance for cohesion and the territories. The quick rebound in manufacturing production and the relaxation of containment measures already in the second half of 2020 also supported the labour market demand. According to the Commission's Autumn 2021 Economic Forecast, the favourable economic outlook is set to further tighten the labour market, with unemployment rates gradually declining to 4.6% in 2022 and 4.4% in 2023. At the same time, the transition back to the full-time work and a projected increase in activity rates are forecast to partially alleviate the pressure on the labour market and on wages. Nevertheless, growth of wages is expected to remain strong at 9% in 2022 and 7.9% in 2023.

Emergency budgetary measures helped to contain the negative effects of the pandemic, making use of the fiscal space created before the pandemic. The Bulgarian government has raised health care related funding for providers of medical care and introduced measures including the provision of vaccines and PCR tests, as well as additional remuneration payments for medical staff. It has also provided relief to those individuals and sectors that have been particularly affected and launched measures to protect jobs. The estimated direct budgetary impact of these measures in 2020 is close to BGN 3.8 billion (EUR 1.94 billion), or around 3.2% of GDP. Taking into account these measures and the impact of the pandemic on economic activity, the Bulgarian government amended its budgetary target to a deficit of 3.1% of GDP in 2021. In light of the rising energy prices, the government has introduced compensations for firms in certain sectors. The indicative amount of these measures hover around BGN 1.8 billion (EUR 920 million) or 1.2% of GDP. The general government debt is estimated to have further increased to around 27% of GDP in 2021. Overall, national as well as EU-wise measures to address the exceptional economic situation have helped to lessen the shock on household income and prevented further rise in income inequality and poverty risk³.

Although profitable and well-capitalised, the financial sector operates amid heightened uncertainty. The system-wide CET1 ratio remained high at 22.1% at the end of Q2 2021. Following the pronounced decline in 2020, profitability of banks has improved somewhat in 2021, with return on equity at 8.1% in Q2 2021. The measures announced by the Bulgarian National

³ See "Households' income and the cushioning effect of fiscal policy measures during the Great Lockdown", <https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121598.pdf>.

Bank at the beginning of the crisis, including the retention of profits and limit on commercial banks' foreign exposures, were instrumental for preserving the banking sector stability. Risks stem mainly from the relatively high share of non-performing loans, corporate indebtedness and banks' exposures to highly affected sectors. The NPL ratio has been on a downward trend across individual banks and segments, declining to 5.6% at the end of Q2 2021 (from 6.7% a year earlier). Nevertheless, certain credit risk linked to the expiration of the loan payment moratorium, imposed in April 2020, exists.

Notwithstanding the gradual rebound from the immediate economic shock, structural weaknesses hamper Bulgaria's path towards convergence. GDP per capita in PPP in Bulgaria has converged from 45% of the EU average in 2010 to 55% in 2020. The gap in consumer price level to EU average has remained relatively unchanged in the last ten years, with overall prices at 55% of EU average in 2020. Bulgaria has one of the highest levels of poverty and income inequality and a weak performing health system characterized by limited and unequal access to healthcare services. Broad-based structural reforms are needed to boost productivity and to achieve sustainable and inclusive growth.

In the longer term, adverse demographic developments and high inactivity rates pose significant risks. Bulgaria is facing a double-trend of an ageing and rapidly shrinking population, which decreased by around 10% over the past decade, according to the preliminary results of the 2021 population census. Combined with the high inactivity rates for some groups, notably those living in rural and underserved areas, this remains a key challenge for achieving a fair and inclusive recovery.

Bulgaria entered the COVID-19 crisis with a strong fiscal position. The general government budget was in surplus since 2016. Rising revenues from taxes and social security contributions counterbalanced increases in expenditure that were mainly due to higher public wages and a partial recovery in public investment. In 2020, the COVID-19 pandemic pushed the general government balance down. Revenues fell due to the economic downturn and expenditure increased to address the social and economic consequences of the crisis, while increases in public wages continued. Mainly as a result of these developments, the general government budget registered a deficit of 4% of GDP in 2020 against a surplus of 2.1% of GDP in the previous year. The Commission 2021 autumn economic forecast estimated the general government deficit at 3.6% of GDP in 2021, which is an improvement but still above the 3% of GDP, mainly due to the continued COVID-19 emergency support measures and new permanent social measures. The general government debt, which increased by almost 5 pp, to 24.7% of GDP in 2020, is estimated to have further increased to around 27% of GDP in 2021.

The authorities' macroeconomic scenario in the Medium-term fiscal framework (MFF) is more favourable than the Commission's projections. The difference in growth rates for 2022 stems from the more favourable assumptions on private consumption and investment activity. In the Ministry of Finance forecast, GDP is set to grow more rapidly, at 4.8% in 2022. The difference

in expected GDP growth comes from both the higher private consumption and higher investment. The MFF forecast projects lower consumer price inflation at 5.6% in 2022 and 2.7% in 2023, which may partially account for the more buoyant private consumption. The high investment rate in the MMF forecast stems from the assumed full additionality of privately co-financed investment under the Plan.

The expected labour market developments in the MFF are more favourable than the Commission expectations. According to the forecast by the Ministry of Finance, the number of employed is set to increase on average by around 1% in the period 2022-2024 and unemployment rate to decline from 5% in 2022 to 4.6% in 2023. The expected employment growth is above the Commission forecast, while the reduction in unemployment is broadly in line with that of the Commission. This suggests more favourable labour supply developments in the MFF forecast. The Commission projection acknowledges that the employment growth is limited in the medium term by the negative demographic trends. Another factor that constrains higher employment rates according to the Commission is the shortage of skilled labour, skill mismatches and comparatively low participation rates, combined with stark regional disparities. The MFF macroeconomic scenario envisages a continued wage growth at 8.1% in 2022, 7.4% in 2023 and 7% in 2024, somewhat below the Commission projections.

Table 2: Comparison of macroeconomic developments and forecasts

	2019	2020	2021		2022		2023		2024	2025	2026
	COM	COM	COM	RRP	COM	RRP	COM	RRP	RRP	RRP	RRP
Real GDP (% change)	4,0	-4,4	4,0	3,7	3,7	4,8	3,9	3,7	n.a.	n.a.	n.a.
Employment (% change)	0,3	-2,3	0,0	0,1	0,9	1,1	0,6	1,2	n.a.	n.a.	n.a.
Unemployment rate (%)	4,2	5,1	5,1	5,4	4,6	5	4,4	4,6	n.a.	n.a.	n.a.
HICP inflation (% change)	2,5	1,2	2,8	2,9	6,3	5,6	3,9	2,7	n.a.	n.a.	n.a.
General government balance (% of GDP)	2,1	-4,0	-3,6	-4	-2,8	-5,5	-2,1	-3,6	n.a.	n.a.	n.a.
Gross debt ratio (% of GDP)	20,0	24,7	26,7	n.a.	26,7	26,3	26,8	28,6	30,3	n.a.	n.a.

Source: Commission Winter Interim Forecast 2022 for GDP and HICP, Commission Autumn Forecast 2021 for other indicators (COM); Recovery and resilience plan (RRP)

2.2. Challenges related to sustainable growth, cohesion, resilience and policies for the next generation

Smart, sustainable and inclusive growth

Despite significant increase in recent years, labour productivity remains below half of the EU average. In 2020, labour productivity per hour worked increased by 0.3% and reached 48.8% of the EU average. Total factor productivity is also picking up, outperforming the EU average

growth. Broad-based structural reforms and additional investments are needed to boost productivity and achieve sustainable and inclusive growth, especially in the context of adverse demographics, considerable skill shortages and rising regional disparities. The Next Generation EU funds and Bulgaria's path towards euro adoption provide unique opportunities for modernisation of the economy. Investments in the recovery and transformation and commitments to key reforms are expected to boost potential growth.

The business environment is not supportive of investment and institutional quality is low. Bulgaria ranks low in the World Bank's Worldwide Governance Indicators and the European Quality of Government Index. In addition, institutions remain among the least performing areas in the Global Competitiveness Index. Despite the progress in past years, Bulgaria still has to address issues related to effective criminal investigation and independence of the judiciary, and there are some weaknesses in public procurement. In the Single Market Scoreboard, Bulgaria keeps ranking low compared to other Member States on the account of underperformance in transparency, competition and efficiency dimensions of public procurement. The country's performance with regards to the transposition deficit of the Single Market directives and on infringements is worsening. Furthermore, restrictiveness of some regulated professions is higher than the EU average.

There are longstanding challenges in the fight against corruption. In 2017 and 2018, Bulgaria carried out a comprehensive reform of its legal and institutional anti-corruption frameworks. The reforms are starting to bear fruit and have led to improved cooperation between the relevant authorities. Nonetheless, corruption remains a problem, and the protests that had erupted in summer 2020 revealed a widespread discontent in the society. The corruption perception surveys also show a very low level of public trust in the anti-corruption institutions, which should establish a solid reputation of impartiality, objectivity and independence in the exercise of their responsibilities. A solid track-record of final convictions in high-level corruption cases remains to be established, and sufficient resources should be provided to fight corruption effectively. Finally, the country does not yet have legislation on lobbying and protection of whistle blowers.

The areas of efficiency and quality of justice also need further improvement. The persisting data gaps, which can be solved through better electronic tools, prevent from assessing the efficiency of the justice system in a comprehensive manner. The COVID-19 pandemic has further highlighted the need for effective justice systems that can continue to function amidst a crisis. The resilience of the national justice system could be strengthened by deploying secure electronic communication channels, by enabling proceedings to take place via videoconferencing, and ensuring uninterrupted access to services provided by the judiciary via electronic means.

The Bulgarian research and innovation performance is among the weakest in the EU. This represents a significant barrier for the country's transition towards a knowledge-based economy. The weak performance of the public science base is a major bottleneck. The public research system continues to be characterized by a high level of institutional fragmentation, whilst public R&D

funding remains critically low. The outdated research infrastructure and a dwindling number of researchers, alongside unattractive research careers and an ineffective R&I policy governance constitute major challenges. The weak links between academia and business hamper knowledge and technology transfer. Moreover, insufficient incentives to commercialize research results and a misalignment of research policy with industry needs create barriers for public-private linkages. Finally, the uptake of digital technologies is slow in both public and private sectors. The uptake of digital technologies is slow in both public and private sectors.

The stock and quality of physical infrastructure remains inadequate. This pertains to both the energy and water infrastructure, as well as to the weak transport connections (especially in the north of the country and some cross-border connections). Robust transport and energy networks would help companies to connect with global markets and suppliers, also boosting their productivity. A well-developed and sustainable infrastructure would also help to attract more foreign direct investment, which can support the economy's shift to a production of higher value-added goods.

Small and medium-sized enterprises (SMEs) continue to face many difficulties. Bulgaria underperforms with regards to the SME environment, particularly in the areas of entrepreneurship, skills, innovation and digitalisation, where it has one of the weakest scores in the EU. So far, measures in support of SME policies have had only a limited effect. On the positive side, access to finance has been relatively good, although it has worsened during the pandemic. Access to equity financing has been improving in recent years as well, but further improvements could foster the creation and development of innovative and high-growth companies. With the COVID-19 crisis, liquidity support was provided by the government in the form of grants, loans and guarantees.

The performance of state-owned enterprises (SOEs) remains a source of concern. There are around 221 SOEs in Bulgaria, spread across many important sectors such as energy, transport, water and health. The financial and operational performance of SOEs is a source of risk for the national budget, while their inefficient and non-transparent operation can lead to distortions in the market and act as an obstacle to private investment. Improving the transparency and governance of SOEs would free up resources and increase the investment potential. Putting in place reforms of the overall regulatory framework and market environment in which these SOEs operate is crucial for improving their performance, particularly in the energy and transport sectors. Bulgaria is currently implementing a major reform of the corporate governance framework of SOEs. This initiative was part of the government's action plan to prepare for applying to the Exchange Rate Mechanism II (ERM II) and it is also included in the Plan.

Bulgaria has been introducing measures to digitalise the tax administration and to improve the tax collection. In 2021, Bulgaria was amongst the countries with the most significant decreases in the VAT gap and there has been some progress with the collection of labour and fuel taxes as well. However, the tax compliance burden remains high. The tax rate on energy is the second

lowest in the EU and there are no specific environmental targets related to tax policy. The green taxation in transport is underdeveloped and progress could be made in line with the ‘polluter pays’ principle to stimulate the demand for clean vehicles and gradually phase out polluting vehicles.

Social resilience, healthcare and territorial cohesion

In the longer term, adverse demographic developments and high inactivity rates pose significant risks. Bulgaria is facing a double-trend of an ageing and a rapidly shrinking population (decrease of around 10% over the last decade). Combined with high inactivity rates for some groups, notably those living in rural and underserved areas, this remains a key challenge for potential growth and for achieving a fair and an inclusive recovery.

In the context of labour shortages, it is key to focus on activation measures, reskilling and upskilling. Bulgaria’s spending on overall active labour market policies is among the lowest in the EU and skill mismatches relative to labour market needs are higher compared to the other Central and Eastern European Member States as well as to the EU average. Even the high-growth enterprises in Bulgaria exhibit shortages in human capital relative to the EU average⁴. The already very low rates of adult participation in learning and the lowest level of digital skills in the EU have worsened due to the pandemic. Participation in adult learning is particularly important considering that the low skilled account for 17.5% of the working-age population. Only 29% of the adult population has basic digital skills (close to half of the EU average). The population’s participation in vocational education and training (VET) is also low. The digital and green transitions will bring new challenges but also potential opportunities for the development of the labour force.

Access to quality education and low educational outcomes are major issues. Low participation in early childhood education and care also remains a major challenge. The rate of early school leaving is still high, particularly among disadvantaged groups, including Roma, and in rural areas, and influences the employability and labour markets outcomes. Although Bulgaria’s investment in education continued to increase in 2019 but was still one of the lowest in the EU. In 2020, Bulgaria’s general government expenditure on education increased by 5%, reaching the equivalent of 4.0% of GDP and this was largely due to the increases in teachers’ salaries. At the same time, insufficient investments in pre-primary and primary education further widen inequalities among students from an early stage. Educational outcomes are low, with almost half of Bulgaria’s teenagers lacking basic skills (against one out of five in the EU). Key reforms on pre-school, school education, adult learning and higher education, complemented by the corresponding investments, including in the IT infrastructure, would help to overcome gaps in the education area.

⁴ Amaral-Garcia, S., Compano, R., Domnick, C., Fako, P., Gavigan J and Testa, G. (2022): High Growth Enterprises Demographics & Finance with a focus on venture capital: Factsheet - Germany, JRC128693

Bulgaria is facing high income inequality accompanied by fragmented and relatively ineffective social benefits. The situation is particularly dire in terms of the risk of poverty and social exclusion, the poverty reduction impact of social benefits and inequality. The labour market impact of the COVID-19 crisis is expected to further worsen the situation, with direct long term knock-on effects for educational outcomes of children from disadvantaged families. The limited capacity of the social services and public employment services and the lack of an integrated approach affects their ability to improve the employability and social inclusion of the vulnerable groups.

The pandemic has put under spotlight the structural challenges related to the sustainability, accessibility and capacity of the healthcare system. Total life expectancy in Bulgaria, at 73.6 years, is 7 years below the EU average. Limited access to health care, which is mainly a consequence of high out-of-pocket payments, gaps in health insurance coverage, as well as unequal regional distribution and low number of health professionals (primarily nurses), has been characteristic of the Bulgarian health system for many years. The system is hospital-centred to the detriment of ambulatory care. This is a result of low public expenditure on healthcare and public health (5.9 % of GDP in 2020, 2.1 percentage points below the EU average), covering only around 60.6 % of total healthcare costs, against 79.5 % on average in the EU. The share of ‘out-of-pocket’ payments (formal and informal) is therefore the highest in the EU, bringing the burden of healthcare costs above the EU average. The effectiveness of the health care system in Bulgaria remains low in comparison to other Member States. Deaths from both preventable and treatable causes are well above the rates for the EU as a whole.

There remain significant inter and intra-regional disparities in Bulgaria. Regional disparities have been increasing considerably since 2000, reaching a peak in 2010 and stabilising afterwards. The main driver is the concentration of economic activity in the capital region of Sofia and its rapid development in 2000-2010. The capital region of Sofia (South-West) also attracts more than half of the foreign direct investment in the non-financial sector, which is mostly concentrated in the capital itself. The poorest performers are the North-Central and in particular the North-West region. Demographic developments also influence regional trends in GDP per capita. The NUTS2 regions that were most affected by demographic changes over the last decade are the North-West (-28.8%) and North-Central (-23.1%). A balanced distribution of investments to the private sector, infrastructure and research and development may lead to a mitigation of regional disparities⁵.

2.3. Challenges related to the green and digital transition

Green dimension

At least 37% of the financial allocation in the recovery and resilience plans needs to contribute to the green transition. The measures in the Plan are expected to contribute to

⁵ Crucitti, F., Lazarou, N., Monfort, P., and Salotti, S. (2021). A scenario analysis of the 2021-2027 European Cohesion Policy in Bulgaria and its regions. JRC Working Papers on Territorial Modelling and Analysis 06/2021, JRC126268.

achieving the 2050 climate neutrality objective, and the 2030 energy and climate targets, taking into account Member States' national energy and climate plans. They should also contribute to meeting the environmental targets for waste, water, pollution control, sustainable mobility, biodiversity protection and restoration, marine and water resources, and support the transition to sustainable food systems as well as to a circular economy, while ensuring that nobody is left behind. It will be essential that local and regional stakeholders from the coal regions are closely involved in the implementation of the measures in the RRP and in the co-designing of further measures for the transition to climate neutrality.

Renewable energy

Bulgaria's 2020 target on renewable energy of 16% is already achieved. In 2019 the share of consumption was 20.5%. The main source of renewable electricity is hydro, which accounted for more than half of renewable electricity production in 2018. In the heating sector, the source of renewable energy is heavily concentrated (96%) in solid biomass and biogas only accounts for 4%. This puts a challenge on Bulgaria to further decarbonize the sector, while maintaining the environmental requirements for biomass and air quality. Another challenge for a stronger penetration of renewables is the need for a more flexible and smarter electricity network.

Bulgaria aims to contribute to the EU's 2030 target for renewable energy by reaching 27.09% of renewable energy. This contribution is just above the 27% share calculated using the formula in Annex II to Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action (the 'Governance Regulation') setting out the national contributions for the share of energy from renewable sources. Additional policies and measures will be needed to achieve Bulgaria's 2030 target.

Energy efficiency

Bulgaria has the most energy-intensive economy in the EU. Energy efficiency will become more important in the process of decarbonisation. Energy efficiency measures complement renewable energy deployment in reducing the carbon emissions and in increasing Bulgarian competitiveness. Bulgaria's aims to contribute to the EU 2030 energy efficiency target by reducing primary energy consumption by 27.9% and final energy consumption by 31.7% compared to the 2007 reference scenario projections for 2030. Based on the underlying assumptions of the NECP, this translates into a contribution of 17.5 million tonnes of oil equivalent (Mtoe) for primary energy consumption and 10.3 Mtoe for final energy consumption. These energy efficiency contributions are considered to represent low ambition in terms of the primary and very low ambition in terms of the final energy consumption.

Energy efficiency of the building stock remains a challenge. The NECP lists a number of key actions for building renovation with a quantitative objective of renovating a total of 22.2 million m² by 2030, 49.6 million m² by 2040 and 55.8 million m² by 2050. According to Bulgaria's Long-Term Renovation Strategy (LTRS), energy efficiency funding provided through Operational

Programmes until 2020 covers 8% of total financing necessary for the non-domestic sector, and 9% in the residential sector. The estimated investment needed in the period 2021-2025 is €162m per year, rising to €314m per year in the period 2026-2030 – resulting in a total of €1.1 bn until 2026.

Energy poverty

Energy poverty continues to be a widespread issue in Bulgaria. In 2020, 27.5% of the Bulgarian people reported they were unable to keep their homes adequately warm and 22.2% of the population was unable to pay their utility bills on time due to financial difficulties. In particular people living in rural areas, which account for 32% of the population, have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills.

Socio-economic impact of coal phase-out

The socio-economic impacts of coal phase out are expected to be high for affected local communities. With about 43.1% of electricity produced by indigenous lignite and brown coal-fired power plants, a significant number of workers will be affected by the necessary gradual coal phase out, giving rise to needs for reskilling and the creation of jobs. These socio-economic effects are especially expected to affect people living in coal regions, such Maritza, Pernik and Kyustendil. This calls for measures and programmes that aim to reskill the affected workforce, provide sectoral and geographic mobility support, and repurpose coal mining areas and coal-fired power plants in a way that creates new economic and employment opportunities. When defining the vision and steps for the transition to climate-neutrality in particular, it will be essential that local and regional stakeholders from the coal regions are closely involved in co-design and implementation.

Air quality

Air quality in Bulgaria is still a cause for severe concern. Bulgaria continues bearing significant health burden due to poor air quality. The Commission has referred the country to the Court of Justice of the EU (CJEU) for a second time because of its continued failure to comply with the PM10 limit values and to keep the period of exceedance as short as possible. The zones with systematic and continuous PM10 exceedances since 2007 at least until 2019 cover a territory where approximately 95% of the population of Bulgaria lives. The main sources of pollution with particular matter (PM, dust) remain domestic heating sector using solid fuels and transport. The lignite-fired power plants are the cause of excessive sulphur dioxide pollution, which is subject to a litigation before the CJEU. The heavy reliance on biomass for renewable energy production in Bulgaria does not provide a suitable alternative to fossil fuels in this respect.

Circular economy

Bulgaria has not yet adopted a strategic circular economy view. With 2.4% circular (secondary) use of material, Bulgaria scores significantly lower level than the EU average of

11.9%⁶. Bulgaria also has the EU's lowest rate of resource productivity. Waste management, including separate collection, remains a challenge. While there was some progress in closure and rehabilitation of non-compliant landfills, the process is still not completed and illegal landfilling remains an issue. The recycling rate of municipal waste is considerably lower than the EU average and Bulgaria remains at risk of not meeting the EU recycling targets. The 'pay-as-you-throw' principle will only be enforced as of 1 January of the second year following the publication of the results of the 2021 census, and the unfair practice of not calculating waste collection fees on the basis of waste generation will continue beyond 2023. There is no national waste management registry in Bulgaria at present. Such a registry would increase the waste management standards and transparency in waste management – a sector prone to fraud and corruption.

Water

Little progress has been observed in achieving compliance with the drinking water and urban wastewater treatment directives. Following the start of a reform of the sector by Bulgaria, significant investments have been made through the Cohesion Policy. These have led to positive results such as the conclusion of 16 regional feasibility studies for water/wastewater investments, which are now forming the basis for infrastructure investments across the country. However, implementation is slow and needs are huge with large investments still required to achieve compliance with the EU Directives, and to reduce the high level of water leakage due to old and poorly managed infrastructure. The water management reform is still to be completed in six of the 28 NUTS3 regions. The consolidation aims to build the resilience of the sector, however, operators are in weak financial position and no reform has been put in place yet to ensure their viability and long-term sustainability and that of the network. The quality of ground water in Bulgaria is also deteriorating. Significant delays in updating Bulgaria's marine strategy due in 2018 have led to Bulgaria being referred to the Court of Justice of the EU.

Biodiversity

Threats to nature and biodiversity remain. While Bulgaria has a vast and diverse natural protected areas (including over 34% of the territory covered by Natura 2000) and a high potential for a green economy, it has not shown much commitment to exploiting this potential in a sustainable way. Bulgaria has not yet implemented its obligation to establish site-specific conservation objectives and measures for a majority of its sites. In addition, the appropriate assessment of the impacts of projects and plans on the Natura 2000 sites is not made according to standards. Cumulative impacts are systematically not taken into account, nor is the impact on the integrity of the sites. Many developments representing a major threat to Natura 2000 sites, protected habitats and species have still been authorised, while at the same time Bulgaria reported that in the period 2013-2018, only 12.23% of its habitat types and 38.06% of its species of Community interest were in favourable conservation status. These factors continue to present an

⁶ Eurostat 2019 (https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_ac_cur&lang=en)

untapped potential for economic growth based on the development of sustainable and niche tourism and the recreational sector. A higher use of green infrastructure and ecosystem-based solutions would also bring significant benefits to the country in support of biodiversity while also addressing some impacts of climate change and contributing to improvements to air quality.

Bulgaria was the worst performing Member State in the 2019 Eco-innovation index⁷ by a large margin. Certifying a number of companies with environmental management systems has not led to a significant uptake in terms of green products offered nor eco-innovation. Despite certain success with some waste streams (plastics and waste from electric and electronic equipment), the potential of a new circular business models is still to be explored. No progress has been made in terms of water savings and water reuse.

Sustainable transport

The limited development of the transport infrastructure and the slow progress on the Trans-European Transport Network (TEN-T) affects the economic and social development of Bulgaria. This contributes to significant disparities between the different regions and a North-South divide. The TEN-T investments are crucial for a balanced socio-economic development and for connectivity with neighbouring countries. An important regional asset for transport, the Danube River and the Black Sea, would both benefit from improved navigability and safety. The progress in completion of the TEN-T core network is very limited so far (12% completion at the end of 2021) and Bulgaria risks not meeting the target to complete the TEN-T core network by 2030. Decisive action is needed to step up the capacity and resources to adequately prepare and implement TEN-T projects in line with related EU standards.

Greenhouse gas emissions from road transport have increased over the last five years, raising concerns on the sustainability of transport. The GHG emissions from transport in Bulgaria have increased by 52% from 1990 to 2019. The European rail traffic management systems (ERTMS) and intelligent transport systems (ITS) remain underdeveloped. The railways rolling stock is relatively old, and its modernisation would increase railway usage and speed and promote modal shift from roads. Sustainable mobility measures (e.g. electrification of public transport, promotion of electric and hybrid cars, deployment of charging infrastructure, low-emissions zones in large cities, clean public transport) would bring economic, health, and environmental benefits. Bulgaria is among the 10 Member States with the lowest number of newly-registered electric vehicles in the EU, and more effort is needed to develop the alternative fuels infrastructure and stimulate the demand for zero-emission vehicles, while reducing the number of most polluting vehicles in circulation.

Road safety is a major issue. Bulgaria has one of the worst track records in the EU. In 2019, there were 90 deaths per million inhabitants in Bulgaria, vs an EU average of 51. Reforms improving the enforcement of rules, increasing vehicles' inspections, promoting awareness and investments

⁷ https://ec.europa.eu/environment/ecoap/bulgaria_en

in infrastructure/vehicles safety and in the removal of blackspots are crucial to improve road safety, to reach the target of 50% reduction of victims by 2030 in line with the EU Road Safety framework. There is an urgent need to invest in safety upgrades of road tunnels, 4 of which are currently not compliant with the EU Tunnel Safety Directive and are subject to infringement proceedings.





There are significant needs for sustainable urban transport projects, also outside the capital.

The integration of different modes of transport, including sustainable public transport, would be beneficial. It is crucial to reflect the needs of population to travel for education and work in the local and regional road infrastructure and in the network of public transports, which would benefit from the development of a single ticket system to increase interoperability and ease of access. In less developed regions outside the capital, the promotion of sustainable public transport is important to enhance mobility and transport sustainability.

Current taxes and charges linked to transport do not cover the generated costs. Costs of negative externalities in transport (accidents, congestion, air pollution, climate change, noise and habitat damage) are estimated to about EUR 7 billion annually for road, rail and inland waterways⁸, while the total revenue from all land transport modes amounts to about EUR 4 billion (respectively 66% and 46% of the costs for passengers and freight). An electronic tolling system for vehicles over 3.5t is in place in Bulgaria since March 2020. Every further effort on the implementation of the Directive 2019/520 (Electric Tolling System) would be beneficial in generating revenues. The table below gives an overview of Bulgaria objectives, targets and contributions under Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

⁸ https://ec.europa.eu/transport/themes/sustainable-transport/internalisation-transport-external-costs_en

Table 3: National targets and contributions

	National targets and contributions	Latest available data	2020	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (%)	21%	20%	0	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	20.5	21.4	27.09	Sufficiently ambitious (Above RES formula of 27%)
	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	18.34	16.9	17.5	Low ambition
	Final energy consumption (Mtoe)	9.9	8.67	10.3	Very low ambition
	Level of electricity interconnectivity (%)	7.1	11.3	15	N/A

Source: Assessment of the final national energy and climate plan of Bulgaria

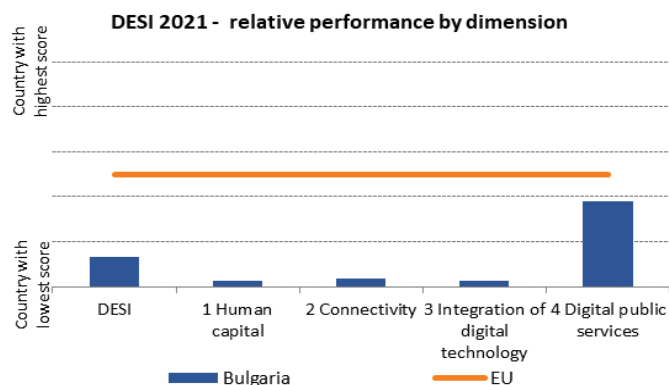
Digital dimension

The Plan should contribute to the digital transition and at least 20% of the financial allocation needs to contribute to digital objectives. The measures in the Plan should, inter alia, contribute to the digital transformation of the economic and social sectors (including public administration, public services, and the justice and health systems). The objective of the measures in the Plan should be to improve not only the competitiveness, but also the resilience, agility and security of companies and public actors, all while ensuring inclusiveness.

Bulgaria ranks 26th among the 27 EU Member States in the Digital Economy and Society Index (DESI) 2021⁹. Bulgaria lags significantly behind in all digital areas compared with the EU average. Although its performance in absolute values has increased since 2019, it ranks lower than before due to the better performance of its peers. This situation reflects the need for a step change in digital policies.

⁹ <https://digital-strategy.ec.europa.eu/en/policies/desi-bulgaria>

Chart 1: DESU Scoreboard 2021



On connectivity, Bulgaria scores particularly poorly. The country ranks 26th among EU countries with a score of 38 against the EU average of 50. Bulgaria scores only 59% in overall broadband take-up of households subscribing, which is below the EU average of 77% and is significantly below the EU average as regards the take-up of high-speed fixed broadband of at least 100 Mbps (15%, against an EU average of 34%). While there has been some increase in the very high capacity network (VHCN) coverage in recent years, Bulgaria (43%) still has a significant gap to overcome to reach the EU average (59%), while VHCN coverage in rural areas is only 1%. 5G coverage it is at 0% compared to 14% EU average. Take-up of mobile broadband is still low at 63%, compared to an EU average of 71%. As regards 5G readiness, Bulgaria has made significant progress with the completion of 5G auctions in some bands (20.55% compared to the EU average of 39%), although there is still a lack of sufficient spectrum in certain bands. Other 5G pioneer bands should be assigned on a timely basis, under conditions conducive to investment.

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Bulgaria ranks 21st in the EU in digital public services. Concerning digital public administration, the outdated legal framework remains a major obstacle. E-government users represent only 36% of internet users, well below the EU average of 64%. This is consistent with the score of 57 on the provision of digital public services for citizens, for which the EU average is 75. In contrast, digital public services for businesses have a score of 87, slightly above the EU average of 84. Bulgaria performs at the EU average level on open data.

However, digital public services for enterprises and the use of open data by public administrations are slightly above the EU average. A national strategy in this domain and the activity of the national state e-government agency have delivered promising improvements. Several actions have been taken to engage with people to encourage take-up of e-government services (supported by EU funds). Electronic identification and electronic signatures are still facing delays, although there are other means of identification in place. Systems to support e health solutions were prioritised to support health administration processes and the COVID-19 vaccination campaign.

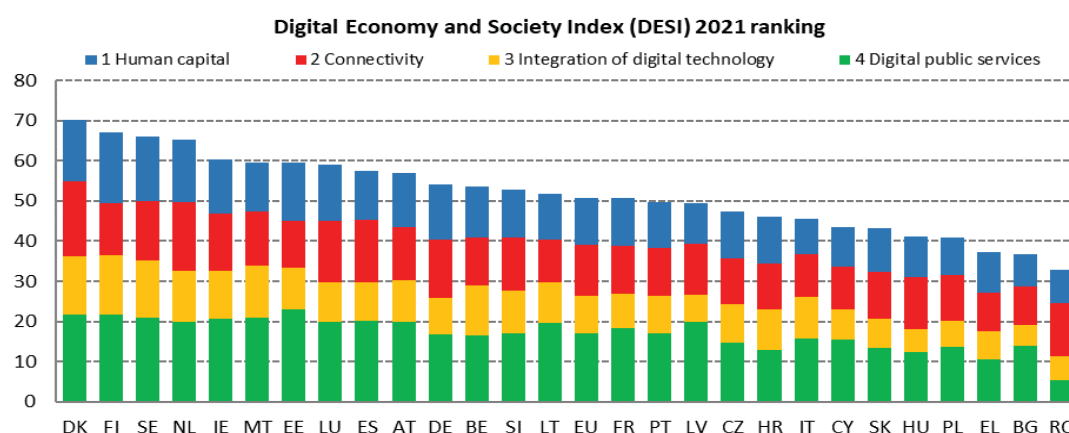
On digital skills, Bulgaria ranks last in the 27 EU countries. The overall level of basic digital skills in Bulgaria is the lowest in the EU; people with at least basic digital skills account for 29% of the total Bulgarian population aged 16 to 74, against an EU average of 56%. Only 11% of people have above basic skills, slightly less than a third of the EU average. Furthermore, most businesses report difficulties filling vacancies for ICT specialists. ICT specialists account for 3.3% of total

employment. This marks an increase compared to 2019, bringing it back to the levels of 2018, albeit a small one in proportion to the workforce given the labour market shortages and the faster increase of the EU average (which now stands at 4.3%). In contrast, women account for 28% of all ICT specialists, making Bulgaria a leader for this indicator within the EU.

Overall, basic digital skills remain a significant challenge among the population. Enterprises still have difficulties in matching the skills they need to the available competences and skills of the workforce. Increasing the number of Bulgarian ICT specialists and reskilling the labour force are both of great importance for Bulgaria if it is to fully take advantage of the digital transition.

Bulgaria's performance regarding the integration of digital technology in enterprises is mixed and it ranks last among EU countries. There is a relatively high uptake of artificial intelligence, used by 31% of enterprises, which is well above the 25% EU average. At the same time, only 33% of SMEs have at least a basic level of digital intensity (while 60% do so in the EU on average). Only 8% of Bulgarian SMEs sell online (below the EU average of 17 %), only 3% of SMEs are selling across borders (versus 8% in the EU) and only 3% of turnover comes from the online segment (against 12% in the EU). 6% of enterprises use big data compared to 14% on average in the EU. Bulgaria launched several successful initiatives in several pioneering technologies, e.g. high-performance computing, quantum communication research and development. However, the integration of digital technologies is uneven across regions, and small enterprises show a significant delay in this respect. Policies for the digitalisation of enterprises that support regional balance and all SMEs are crucial and should be further pursued.

Chart 2: DESI 2021 ranking



Box 1: Progress towards the Sustainable Development Goals

Sustainable Development Goals and the four dimensions underpinning the Annual Sustainable Growth Strategy



The objectives of the Sustainable Development Goals (SDGs) are integrated in the European Semester since the 2020 cycle. This provides a strong commitment towards sustainability in coordination of economic and employment policies in the EU. In that respect, this section outlines Bulgaria's performance with respect to SDGs with particular relevance for the four dimensions underpinning the 2021 Annual Sustainable Growth Strategy and of relevance to the recovery and resilience plans (green transition, fairness, digital transition and productivity, and macroeconomic stability), indicating possible areas where investments and reforms in line with the objectives of the Facility could further accelerate the progress on the SDGs.

The SDGs are represented under a specific Commission guiding principle for competitive sustainability from the 2021 Annual Sustainable Growth Strategy, to which they are strongly associated. It should be noted that most Sustainable Development Goals contribute, to varying degrees, to several guiding principles.

Bulgaria is improving on most SDG indicators related to *green transition*. Even though there is improvement (SDG 2, 6, 7, 9, 11, 13), challenges remain in some areas (especially in SDG 12). On the other hand, the country performs well on SDGs 15 and 17. The 'responsible consumption and production' indicators (SDG 12) rate way below the EU average with the 'circular material use rate' shrinking from 3.1% of the material input for domestic use in 2015 to 2.6% in 2020 (compared to 12.8% in the EU) or the 'generation of waste excluding major mineral waste' of 3097 kg per capita (1820 being the EU average). Also the 'average CO₂ emissions per km from new passenger cars' exceeds the EU average of 108.2 g CO₂ per km by 24.8 g. In addition, the

‘sanitation’ indicator (SDG 6), in spite of some improvement, remains below the EU average with 7% of population (in 2020) ‘having neither a bath, nor a shower, nor indoor flushing toilet in the household’ (compared to 11.1% in 2015 and 1.6% of the EU average in 2019) and 64.5% of population (in 2020) ‘connected to at least secondary wastewater treatment’ (while the EU average was 80.9% in the same year). On ‘affordable and clean energy’ (SDG 7), Bulgaria has achieved some progress in regards to the share of renewable energy in total energy consumption (increase from 18.3% in 2015 to 23.3% in 2020) and is in line with the EU average in this indicator (22.09 % in 2020). While Bulgaria outruns the EU average on the ‘energy import dependency’ (BG 37.9% of imports in gross available energy compared to 57.5% in the EU), it shows challenges when it comes to ‘access to affordable energy’ with 27.5% (2020) of the population ‘unable to keep home adequately warm’ (EU average: 8.2% in 2020).

Bulgaria underperforms in all indicators related to *no poverty* (SDG 1). Although Bulgaria is improving on some SDG indicators related to fairness (SDG 1, 2, 3, 8), this is often from a low level and it needs to catch up on others (SDG 4, 5, 10). Despite progress made on the percentage of ‘people at risk of poverty or social exclusion’ (33.6% of population in 2020 compared to 43.4% in 2015; the EU average in 2020: 21.9%) as well as on the percentage of ‘severely materially or socially deprived people’ (22.5% in 2020 compared to 36.8% in 2015 and the EU average in 2020: 6.8%), there is still room for improvement to catch up with the performance in the EU. It is equally the case for the ‘in-work at-risk-of-poverty rate’, where a deterioration is observed (9.6% of population aged 16 or over in 2020 compared to 7.7% in 2015). While Bulgarians enjoy a longer ‘healthy life years at birth’ (SDG 3) (66.3 years in 2020 compared to EU 64.6), they are more often victims of ‘standardised avoidable mortality’ (2018: 414.5 per 100 000 persons compared to EU 252.1 in 2017) as well as ‘fatal accidents at work’ (2019: 3.37 per 100 000 persons compared to EU 1.74) or ‘road traffic deaths’ (rate of 9 in 2019 compared to 5.1 in EU). On ‘quality education’ (SDG 4), Bulgaria shows rather ‘low achievements in reading’ (47.1% of 15-year-old students with low achievements in 2018 compared to EU average of 22.5% in the same year) and an above-average amount of ‘early leavers from education and training’ (in 2020: 12.8% of population aged 18 to 24). There is room for improvement also when it comes to ‘gender equality’ (SDG 5), as only 12.9% of board members (senior management) are female compared to 29.5% in the EU (2020).

Concerning the productivity related SDGs, Bulgaria does not perform well. On ‘Industry, innovation, and infrastructure’ (SDG 9), Bulgaria performs below the EU average on the gross domestic expenditures on R&D ranking, with 0.86% in 2020 compared to the EU average of 2.32%. The expenditure share has been increasing between 2016 and 2020, albeit at a very slow rate. The share of research personnel in Bulgaria is almost twice lower than in the EU in general. The country is seriously lagging behind in patent applications, with only 7.5 per million inhabitants sent to the European Patent Office in 2020, compared to an average of 147 at EU level. The performance on SDG 8 ‘Decent work and economic growth’ is also weak. In particular, ‘real GDP per capita’ is the lowest in the EU and ‘resource productivity’ is the second lowest in 2020. On

digital skills (SDG 4), Bulgaria had the lowest share of adults having at least basic digital skills in the EU in 2019.

Bulgaria is improving on SDG indicators related to *macroeconomic stability* (8, 16) and performs well on SDG 17. While Bulgaria is moving towards the EU average on indicators related to ‘decent work and economic growth’ (SDG 8), several challenges remain in this field. The real GDP per capita of EUR 6380 remains well below the EU average (EUR 26380). Also not only does the ‘investment share of GDP’ (last value given: 18.5% of GDP in 2017) rank below the EU average of 22.3% but it has even shrunk compared to 2012 (21,3%). On the other side, Bulgaria is much less indebted than other EU countries (average: 90.1 % of GDP). In addition, Bulgaria has shown some improvements on the ‘peace, justice and strong institutions’ indicators (SDG 16). While still below the EU average, the country has made some progress when it comes to the ‘peace and personal security’ with a decrease in the ‘population reporting crime, violence or vandalism in their area’ (from 26.3% in 2015 to 19.1% in 2020 (EU average: 13.2% in 2015 and 11% in 2019). On the other hand, there has been no change when it comes to the ‘standardized death rate due to homicide’ (1.2 per 100 000 persons both in 2013 and 2018 (EU average: 0.9 in 2013 and 0.7 in 2017).

3. OBJECTIVES, STRUCTURE AND GOVERNANCE OF THE PLAN

3.1. Overall strategy of the plan

The Plan of Bulgaria is a wide-ranging response to the economic repercussions from the COVID-19 pandemic. It targets the main challenges and systemic weaknesses of the economy. It builds on the country's global vision "National Development Programme BULGARIA 2030", which proposes solutions for growth and development by setting out strategic objectives such as an accelerated economic development, a demographic upswing and a reduction of inequalities. Even though the government had adopted BULGARIA 2030 before the outbreak of the pandemic, the strategic choice of objectives remains valid, as the identified socio-economic vulnerabilities either persist or have worsened in the last two years. At the same time, the Plan aims to extend the scope of the set of reforms and investments to other dimensions, while ensuring coherence with measures planned in parallel under the EU Cohesion Policy.

The Bulgarian Plan is composed of twelve components grouped in four policy pillars: i) Innovative Bulgaria; ii) Green Bulgaria; iii) Connected Bulgaria; and iv) Fair Bulgaria.

Innovative Bulgaria includes reforms and investments aimed at contributing to a shift towards a knowledge-based economy grounded on smart growth, in order to increase competitiveness. It includes measures in the fields of education, digital skills, science, innovation, technology and their interconnections. This pillar is divided in 3 components:

- **Component 1: Education and skills (total financial envelope of EUR 733.5 million).** The policy objective is to increase the quality and coverage of education and training, improving the skill set of the workforce to adapt to technological transformation in the labour market. It includes investments in the modernisation of educational institutions and youth centres, a comprehensive education reform, covering pre-school, school and higher education, the creation of a national STEM environment for skills of tomorrow and the establishment of a national online platform for adult learning, covering upskilling and reskilling of the population. The component contributes to addressing country-specific recommendations related to employability by enhancing skills, including digital skills and improving the quality and equal access to education and training (country-specific recommendation 4 from 2019 and 2 from 2020).
- **Component 2: Research and innovation (EUR 211.3 million).** The policy objective is to provide a favourable environment for the development of innovative enterprises, creating conditions for businesses to pursue new products, processes and services, improving the innovation output of Bulgaria and, consequently, economic growth in the medium and long term. The component contains a reform of the Bulgarian research and innovation ecosystem, through the adoption of the Research and Innovation Act, aimed at defining the legal parameters of innovation policy funding, and the establishment of the Innovation Board, an advisory body to the relevant ministries on research and innovation policy. The component further includes investments in science and innovation in a

programme for accelerating economic recovery and transformation and in projects to enhance the innovation capacity of the Bulgarian Academy of Sciences (BAS). The measures address country-specific recommendations focusing on investment-related economic policy on research and innovation (CSR 3, 2019) and streamlining and accelerate the procedures to provide effective support to small and medium-sized enterprises and self-employed (CSR 3 of 2020).

- **Component 3: Smart industry (EUR 800.7 million).** The reforms and investments included in this component aim to create favourable conditions for private investment in Bulgaria. In particular, the component aims to attract industrial investments and develop industrial ecosystems and support small and medium-sized enterprises and mid-capitalisation companies in modernising their technology and in their transition to green, circular and digital-oriented business practices. The investments include the setup of an economic transformation programme (with a budget of EUR 690 million, almost 10% of the entire Bulgarian Plan, a far-reaching support programme for businesses composed of grants and financial instruments), and a support program for the infrastructural development of industrial parks and zones. The measures address country-specific recommendations focusing on investment-related economic policy on research and innovation (CSR 3, 2019) and streamlining and accelerate the procedures to provide effective support to small and medium-sized enterprises and self-employed, also ensuring their continued access to finance and flexible payment arrangements (CSR 3, 2020).

Green Bulgaria includes reforms and investments focusing on the sustainable management of natural resources, biodiversity, sustainable agriculture and a transition to a low carbon economy. This pillar is divided in 3 components:

- **Component 4: Low-carbon economy (EUR 2 612.5 million).** The objective of the component is to address the main challenges of the Bulgarian energy sector in terms of decarbonisation, renewables share, energy efficiency and internal energy market. In particular, it aims to accelerate the decarbonisation of the energy sector by setting-out a date for the coal phase-out, while facilitating the deployment of renewables and alternative energy sources, such as green hydrogen and biogas, setting ambitious targets for expanded storage capacity for solar and geothermal electricity and a series of market liberalization reforms on wholesale and retail markets to allow for greater competition and easier market access for renewables. The component also supports measures related to the renovation of the stock of residential and non-residential buildings (the biggest measure of the Plan at EUR 924 million). The component addresses the recommendations related to the energy infrastructure and energy efficiency (CSR 3, 2019) and the progressive decarbonisation of the economy, including in the coal regions (CSR 3, 2020).
- **Component 5: Biodiversity (EUR 47.5 million).** The objective is to reform the strategic framework in the field of biodiversity and ensure effective management of the National Ecological Network in order to protect and restore ecosystems, natural habitats and species

of European and national importance. The component contributes to addressing the country-specific recommendations on focusing investment on environmental infrastructure (CSR 3 of 2020).

- **Component 6: Sustainable agriculture (EUR 233.8 million).** The reforms and investments aim at enhancing the sustainable management and competitiveness of the Bulgarian agricultural sector in the context of the green transition. It includes updating the strategic framework of the agricultural sector and investments to support farmers in the implementation of activities ensuring the protection of the environment and climate change mitigation, introducing innovative production and digital technologies, agricultural production and organisation technologies, the automation of work processes, the shortening of supply chains and the conservation of genetic resources. The component contributes to the steering of investments and investment-related policies to the green transition (CSR 3 of 2019 and CSR 3 of 2020).

Connected Bulgaria includes reforms and investments focusing on enhancing the competitiveness and sustainable development by improving transport and digital connectivity, as well as promoting regional development through the endogenous and specific local potential. This pillar is divided in 3 components:

- **Component 7: Digital connectivity (EUR 385.2 million).** Reforms in this component are related to the development and implementation of an effective policy and regulatory framework, the efficient use of the radio frequency spectrum and the creation of a favourable investment environment. The investments foreseen involve the large-scale deployment of digital infrastructure, the digital transformation of the Bulgarian post and the development of the digital TETRA system and radio relay network. The component directly or indirectly contributes to addressing country-specific recommendations related to the reinforcement of digital skills (CSR 4, 2019); the promotion of digital skills and equal access to education (CSR 2, 2020); the need to focus investments on the green and digital transition (CSR 3, 2020); and the effectiveness of public administration and reinforcement of digital government (CSR 4, 2020).
- **Component 8: Sustainable transport (EUR 665.8 million).** The main objective of the component is to enhance the sustainability of the transport sector by reforming the road and railways sectors, promoting zero-emission vehicles, enhancing road safety, and investing in railways, intermodal transport and sustainable urban mobility. This includes investments in the modernisation and digitalisation of railways, new zero-emission rolling stock, European Rail Traffic Management System deployment, a new intermodal terminal in Ruse and clean public transport (Sofia metro and pilot programme for sustainable urban mobility). The component is expected to contribute to the green and digital transition, as well as to a more balanced territorial growth. The reforms and investments address the country-specific recommendations conveyed to Bulgaria in 2019 and 2020 on the need to focus investments on sustainable transport.

- **Component 9: Local development (EUR 211.1 million).** This component aims at setting the framework for improving the competitiveness and sustainable development of the regions of the country and promoting local development. It also targets water management, which is an important aspect of the green transition. It includes reform introducing a new regional approach with direct involvement of local communities in the management of European funds and instruments, as well as investments in water supply and sewage systems, digitalisation of the management, control and use of water. Reforms and investments address the country-specific recommendations related to the regional disparities and investment-related policies on water and on environmental infrastructure (CSR 3 of 2019 and CSR 3 of 2020).

Fair Bulgaria includes reforms and investments focusing on the inclusiveness and shared prosperity, particularly for disadvantaged groups. It also focuses on building effective and accountable public institutions oriented towards the needs of citizens and businesses. This pillar is divided in 3 components:

- **Component 10: Business environment (EUR 188.1 million).** This component aims to strengthen the potential for sustainable growth and increase the overall resilience of the Bulgarian economy by addressing challenges in the overall business environment and improving the institutional framework. It includes reforms and investments in areas such as justice, the fight against corruption, the digitalisation of the public administration, strengthening the governance of state-owned enterprises, the anti-money laundering and insolvency frameworks, the quality of legislative process, public procurement, and audit and control mechanisms. There are also legislative measures for protecting whistleblowers and regulating lobbying. The measures included in the component contribute to improving business environment (CSR 3 of 2019) and the effectiveness of public administration and reinforcement of digital government (CSR 4 of 2020).
- **Component 11: Social inclusion (EUR 440.4 million).** This component of the Plan aims to foster social inclusion by improving social protection and service provision, encompassing a reform of the minimum income scheme to improve its coverage and adequacy and the development of new tools for the Social Assistance Agency and for the Employment Agency, which are expected to move forward the integration of employment and social services. It also contains measures to reform long-term care provision in Bulgaria, support the provision of assisting devices to people with disabilities and promote the social economy and cultural and creative sectors. The component contributes to addressing the country-specific recommendation to address the shortcomings of the minimum income scheme (CSR 2 2020 and 4 2019), as well as to improve access to integrated employment and social services (CSR 4 2019).
- **Component 12: Healthcare (EUR 367.9 million).** This component aims to improve the provision and availability of health services across Bulgaria. It includes investments in the health sector across the territory, the construction of outpatient care units, the establishment

of an air ambulance system, as well as reforms and investments addressing shortages of healthcare professionals, including their unbalanced geographical distribution. The enhancement of e-health and digital innovation in healthcare is expected to be supported by the implementation of the full National Health Information System and the development of digital platforms, including for the diagnostics of diseases. The component contributes to addressing the country-specific recommendations to mobilize adequate financial resources to strengthen the resilience, accessibility and capacity of the health system, and ensure a balanced geographical distribution of health workers (CSR 1 2020), as well as to improve access to health services and addressing shortages of health professionals (CSR 4 2019).

Table 4: Table of components and associated costs.

Component	Costs (EUR million)
Innovative Bulgaria	
1: Education and skills	733.5
2: Research and innovation	211.3
3: Smart industry	800.7
Green Bulgaria	
4: Low-carbon economy	2 612.5
5: Biodiversity	47.5
6: Sustainable agriculture	233.8
Connected Bulgaria	
7: Digital connectivity	385.2
8: Sustainable Transport	665.8
9: Local development	211.1
Fair Bulgaria	
10: Business environment	188.1
11: Social inclusion	440.4
12: Healthcare	367.9
Total	6 897.9

3.2. Implementation aspects of the plan

Complementarities with other EU funds

The Plan is structured so as to complement projects funded via other EU funds. The Bulgarian Plan describes complementarities and synergies with other EU funds, including ESF+, ERDF and Cohesion Fund. This is likely to have a significant potential impact on the Bulgarian economy, as Bulgaria is one of the main beneficiaries of EU funds, measured as share of GDP, over the financing period 2021-2027. The 2021-2027 Partnership Agreement with Bulgaria and the cohesion policy programmes are at advanced stages of preparation, but not yet adopted. Therefore, some areas of support indicated in the Plan might be subject to changes. However,

complementarities are particularly relevant in the field of research and innovation, business environment for small and medium enterprises, circular economy, waste and water management, energy, transport, education, labour market, social inclusion and healthcare.

A number of reforms and investments are complementary to investments financed by the ESF+. ESF+ interventions are expected to focus on strengthening the quality and inclusiveness of education and training as well as access to employment, upskilling and reskilling measures and on actions to improve the capacity and effectiveness of public employment services and social services, thus complementing a significant subset of measures in the Plan. Namely, complementarities are expected in the areas of education and training, provision of employment and social services, including long-term care, and healthcare, including the provision of outpatient care across the territory of Bulgaria. In a number of components, the Plan covers measures related to the construction and/or renovation of buildings and development of IT systems, which are expected to be complemented by ESF+ support of training and/or other measures targeting the development of human capital. For instance, the education component covers the set-up of science, technology, engineering, and mathematics (STEM) laboratories in schools, while the trainings of the teachers should be covered via ESF+. A similar demarcation also applies to newly built facilities providing long-term care and the training of their staff. In the area of healthcare, the investment in outpatient units in the Plan is expected to be complemented by a relocation package covering the costs of medical professionals who will work in those units located in remote areas. Finally, both the Plan and the ESF+ are expected to fund trainings in digital skills but will target different participants on the basis of their labour market status. In addition, under ESF+, targeted and mainstream measures are envisaged for marginalised communities, including Roma, to promote better access to education, social inclusion and labour market integration. Support will be provided to improve access to services, including family or community ones, as well as healthcare and prevention.

The Plan will also complement investments planned with the ERDF, cohesion fund and Just Transition Fund (JTF) notably in the areas of environment, transport, regional development, health and energy. For example, the ERDF and cohesion fund will finance water and waste water investments in larger agglomerations, while the Plan will focus on smaller agglomerations.¹⁰ Cohesion policy will complement the biodiversity reforms and investments in the Plan by supporting the newly established Natura 2000 management bodies and through the development of management plans once all Site-Specific Conservation Objectives (SSCOs) for the country have been developed. The Plan will focus on ecosystems while the cohesion policy will invest in

¹⁰Larger agglomerations are defined as agglomerations above 10 000 *population equivalent*, while smaller agglomerations are agglomerations between 5 000 and 10 000 *population equivalent*. *Population equivalent* is the technical term used in waste water projects. In particular, it refers to the amount of oxygen—demanding substances whose oxygen consumption during biodegradation equals the average oxygen demand of the waste water produced by one person.

conservation measures for species and habitats. As regards the circular economy, the Plan will focus on business while cohesion policy investments will prioritise investments in municipal waste management to ensure investments in the higher echelons of the waste management hierarchy and measures to incentivize behavioral change. In the area of transport, cohesion policy will further develop the core and comprehensive Trans-European Transport Network (road and rail infrastructure) while the Plan will focus on zero-emission rolling stock, electric mobility, Sofia metro and an intermodal terminal in the north of the country. The ERDF will promote a bottom-up, place-based approach to regional development through integrated territorial investments which will be supported by the reforms in the Plan, notably through the development of integrated territorial strategies and integrated municipal development plans and the involvement of the Regional Development Councils in the pre-selection of project ideas. Energy efficiency projects including replacement of fossil-fuel based heating systems will be financed by both the Plan and Cohesion policy, with either a territorial or project level demarcation. Major energy projects under the Plan will be supplemented by the Just Transition Fund. The latter will mitigate the socio-economic impact of the transition to a climate neutral economy in the coal regions. In particular, investments should focus on economic diversification, upskilling and reskilling of workers who will be impacted by the transition, as well as on investments to mitigate the environmental impacts of the transition following the cessation of some activities or decommissioning of facilities.

In the areas of research & innovation and small and medium enterprises (SMEs), the different EU instruments will be complementary and synergies will be sought. In particular in the field of R&I, the measure included in the Plan will focus on developing a national research and innovation ecosystem to bolster the country's smart economic transition at national and regional level. This will be achieved by strengthening the interaction with business, providing support to research universities, and stepping up efforts to enhance the innovation capacity of the Bulgarian Academy of Sciences (BAS) and its specialisation in key development areas such as green and digital technologies. Sectoral support for the design, implementation and evaluation of research and innovation policy reforms will also be available via the Horizon Policy Support Facility. In addition, the Plan will support five strategic industrial parks by financing their infrastructures, while cohesion policy funds will complement the effort with industrial parks of regional importance implemented as part of integrated territorial investments. For what concerns SMEs, the support schemes to investments included in the Plan will be complemented by other measures funded under ERDF.

The Plan will also exploit synergies with the activities supported under the Technical Support Instrument (TSI). Namely, the TSI will provide technical support for the development of a National Skills Strategy and of a strategy for Financial Literacy, both relevant in the context of addressing the skill relevance of the Bulgarian population. These Strategies complement the effectiveness of some of the investments included in the Bulgarian Plan, namely the investments in STEM centers, in the platform for adult learning, and in the youth centres. In addition, the TSI will also cover the strengthening of a Commission in charge of Anti-Corruption and Illegal Assets

Forfeiture, the further decentralization of the Public Finance Model of Bulgarian Municipalities and a better distribution of the workload in the judiciary system. These activities magnify the objectives set out in the education and business environment component of the Bulgarian Plan, thus contributing to providing a more robust institutional environment for the overall management and delivery of the resources from Union Funds, including the Recovery and Resilience facility, as well as to improving the business environment further.

Implementation

In line with the administrative arrangements put in place, the following horizontal structures are involved in the coordination, control and audit of the Plan:

- The *National Fund Directorate* of the Ministry of Finance shall collect and report data on progress and act as the Authority responsible for preparing and submitting payment requests and receiving payments from the EC. The Directorate shall act as a focal point at national level with regard to the preparation of common rules and procedures for the implementation of the Facility, for carrying out checks and controls on the implementation of investments and reforms, including active monitoring of the progress in implementing the measures on the basis of the milestones and targets set in the RRP.
- The *Economic and Financial Policy Directorate* at the Ministry of Finance shall be responsible for the reporting on the progress in the implementation of the milestones and targets of the Bulgarian RRP within the European Semester cycle.
- The *Central Coordination Unit Directorate* shall be responsible for the development of the Plan, the programming documents, including the allocation of funds under the Facility and the drawing up of a strategic framework for information and communication activities in relation to the implementation of the Plan. The Directorate shall be responsible for monitoring the implementation of the milestones and targets of the Plan, including progress on common indicators, green and digital contribution of investments etc. The Directorate shall also be responsible for the setting up of the information system with all the functionalities required for the monitoring of the implementation of the Bulgarian RRP as well as for the further upgrades to the Unified Management Information System.
- The *Executive Agency “Audit of EU Funds”*, attached to the Minister of Finance, shall carry out the audit work under the Facility in order to provide assurance on the reliability of the data on the implementation of the milestones and objectives and the way in which they are collected, as well as assurance that the implementation ensures that double funding, fraud, corruption and conflict of interest are prevented and the principle of sound financial management is respected.

Bulgaria consulted a wide range of stakeholders. This included social partners, regional and local authorities, civil society organisations, business community and other relevant stakeholders at the initial stages of the Plan’s preparation. The first draft of the Plan was subject to a public consultation which gathered over 90 positions from interest parties. These have provided input to the subsequent versions of the Plan. Consultation at the later stages has been more targeted, involving mostly the social partners and specific sectoral representatives. The plan does not include cross-border or multi-country projects.

The Bulgarian Plan provides a security self-assessment for investments in digital capacities and connectivity, in accordance with Article 18(4), point (g), of Regulation (EU) 2021/241. Throughout the Plan, several components include a section that explains the adherence of the measures to the Union's open strategic autonomy and security issues.

The Plan sets out Bulgaria's communication plans. The objectives of the country's communication strategy are in line with the RRF Regulation and aim to raise awareness about the Plan's contribution to the economic and social recovery and to the twin transition. More specifically, the strategy will aim at ensuring maximum visibility and transparency of the governance and implementation process, informing potential beneficiaries and final recipients about funding opportunities under the Plan, as well as ensuring the active involvement of all relevant parties in the implementation. Communication will be targeted to the general public, potential and final beneficiaries, sectoral representatives, media and multipliers.

The communication activities will be carried out via several channels. The dedicated web portal¹¹ will provide summary information about the Plan, links to relevant websites and resources, as well as possibility to signal cases of corruption, fraud, conflict of interest and double funding. Social media channels will be used to disseminate information on the implementation of the Plan. Public outreach activities will be organised for the general public around key stages of the implementation; while key individual projects will be promoted through coordinated communication with the EC, including the EC Representation and the Bureau of the European Parliament in Bulgaria. Projects of high societal relevance will be communicated separately through dedicated press briefings, newsletters, presentations, dedicated internet channels to ensure that messages reach the target audience. Relevant line ministries will act as "spokespersons" on the four pillars of the Plan. All communication activities of the ESP will ensure a single visual identity, namely the use of the EU emblem and slogan: "European Union-funded — next generation EU."

State aid and competition rules fully apply to the measures funded by the Recovery and Resilience Facility. Union funds channelled through the authorities of Member States, like the RRF funds, become State resources and can constitute State aid if all the other criteria of Article 107(1) TFEU are met. When this is the case and State aid is present, these measures must be notified and approved by the Commission before Member States can grant the aid, unless those measures are covered by an existing aid scheme or comply with the applicable conditions of a block exemption regulation, in particular the General Block Exemption Regulation (GBER) declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU¹². When State aid is present and it requires notification, it is the duty of the Member State to notify State aid measures to the Commission before granting them, in compliance with Article 108(3) TFEU. In this respect, the State aid analysis carried out by Bulgaria in the Plan

¹¹ <https://www.nextgeneration.bg>

¹² Commission Regulation 651/2014, OJ L 187, 26.6.2014, p. 1

cannot be deemed a State aid notification. In as far as Bulgaria considers that a specific measure contained in the Plan entails de minimis aid or aid exempted from the notification requirement, it is the responsibility of Bulgaria to ensure full compliance with the applicable rules.

The Plan contains measures that are expected to help Bulgaria address the challenges in the area of gender equality and equal opportunities for all and describes existing national challenges in the area of gender equality and inclusion of vulnerable groups, including Roma.

The Plan also states that equal participation of men and women and non-discrimination based on sex, race, ethnicity, religion or belief, disability, age and sexual orientation will be respected in the implementation of the measures. To monitor the implementation of the Plan, data will be disaggregated by gender, age, disability and ethnic origin for reporting purposes, where possible. Measures in the Plan that contribute to addressing some of the national challenges on gender equality and access to equal opportunities for some groups cover the personal development of young people from vulnerable groups, including Roma, the mobility and opportunities for independent living of people with disabilities and the quality of life of older people. The Plan also covers investments in kindergartens, with implications for the labour market participation of women.

4. SUMMARY OF THE ASSESSMENT OF THE PLAN

4.1. Comprehensive and adequately balanced response to the economic and social situation

The Bulgarian recovery and resilience plan amounts to EUR 6 897.9 million of estimated costs. It represents a comprehensive and fairly balanced package consisting of 103 individual measures (47 reforms and 56 investments). The Plan contributes to the general objective of the Facility to promote the Union's economic, social and territorial cohesion by referring in a comprehensive manner to the six pillars structuring the scope of application of the Recovery and Resilience Facility (Article 3): (i) Green transition, (ii) Digital transformation, (iii) Smart, sustainable and inclusive growth, (iv) Social and territorial cohesion, (v) Health and economic, social and institutional resilience, and (vi) Policies for the next generation. Table 4.1 below summarises the coverage of each of the components in the Bulgarian Plan to one or more of the six pillars.

Overall, the Plan includes an appropriate balance of reforms and investments addressing the six pillars, reflecting the overall financial allocation and the country's challenges. Allocations to the green and digital transitions meet the requirements of the Recovery and Resilience Facility Regulation, and the Plan contributes to these two pillars substantially. The health, economic, social and institutional resilience pillar benefits most prominently from different components; at the same time, a significant number of components also contribute to the green and digital transitions, the smart, sustainable and inclusive growth, and social and territorial cohesion pillars. Finally, the two components for education, and research and innovation provide an important contribution to the pillar on policies for the next generation.

Table 5: Coverage of the six pillars of the Facility by the MS RRP components

	Green transition	Digital transformation	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, and economic, social and institutional resilience	Policies for the next generation
Component 1: Education and skills	○	○		○		●
Component 2: Research and innovation	○	○	●			
Component 3: Smart industry	○	○	●			
Component 4: Low-carbon economy	●	○	○		○	
Component 5: Biodiversity	●					
Component 6: Sustainable agriculture	●	○				
Component 7: Digital connectivity		●	○	○	○	
Component 8: Sustainable transport	●	○	○	○		
Component 9: Local development	○	○				
Component 10: Business environment		●	○	○	●	
Component 11: Social inclusion		○	○	●	○	
Component 12: Healthcare.		○		○	●	

Key: “●” investments and reforms of the component significantly contribute to the pillar; “○” the component partially contributes to the pillar

Green transition

The Plan’s reforms and investments addressing the green transition are expected to effectively contribute to the green transition, and to addressing the challenges resulting therefrom. Eight out of the twelve components contribute, to different extents, to the green transition. In terms of investments, the Plan arrives at a climate tracking contribution of over 58%. The energy and climate measure include a large package of reforms, notably in relation to setting out a date for the coal phase-out and enshrining this in a law/strategy to be approved in 2023 by the Bulgarian Parliament, establishing a mechanism to cut the greenhouse gas emissions from the

electricity sector nearly in half on a permanent basis, reforms to facilitate and speed up deployment of RES as well as laying out the regulatory framework for off-shore wind power and commitments to more than tripling RES installed capacity within four years, and a series of market liberalization reforms on wholesale and retail markets to allow for easy market access for renewables, among others.

The Plan includes reforms and investments to support deployment of renewable electricity generation. They contain ambitious targets for expanded generation and storage capacity for solar and geothermal electricity. The Plan also includes a dedicated measure to support the development of pilot projects enabling the introduction of green hydrogen and biogas for industrial applications, as well as for their future use in transport and for the production of electricity and heat.

The Bulgarian Plan includes an investment in electricity network infrastructure. This is with a view to modernising the electricity grid through the introduction of the state-of-the-art digital tools and methods to provide the necessary tools for the management of the electricity system and to increase its flexibility to allow for increased penetration of electricity from renewable sources.

The plan includes significant investment in energy renovation of buildings. The investments will finance energy renovations of residential and public/private buildings, street lightning and renewables for households not connected to natural gas and/or heat transmission networks.

The Plan includes a sizeable allocation to sustainable transport (EUR 665.8 million). Several important reforms are included in the Plan, such as regulatory measures to strengthen the capacity to implement TEN-T projects, increase the European Rail Traffic Management System (ERTMS) coverage of the rail network, create a legal framework for a single transport ticketing system and single integrated transport scheme, as well as the law on promoting electric mobility, aiming at accelerating the electrification of road transport in Bulgaria and reducing related greenhouse gas emissions and air pollution. This is expected to deliver 10 000 electric charging stations and a total of 30 000 zero-emission and low-emission vehicles, and a 50% reduction in road safety blackspots. The investments include the acquisition of electric rolling stock for sub-urban and interregional rail transport, upgrade of existing railways infrastructure with ERTMS and digital systems, the extension of Sofia metro line 3, a new intermodal terminal in Ruse, the digitalisation of rail transport with deployment of European Rail Traffic Management System; a sustainable urban mobility pilot scheme including zero-emission public transport vehicles and charging station infrastructure.

In order to improve water management, the water sector reform included in the Plan is expected to optimise the regulatory framework for water supply and sewerage services. The new legislation aims at refining the tariff setting mechanisms, ensuring cost-based pricing for the use of the systems and the consumed services while also ensuring financial sustainability of the operators. Investments in this area include of the construction, reconstruction and modernisation of water supply and sewerage systems, and drinking and waste water treatment plants, as well as the digitalization of water management and improving the control of water use.

The biodiversity component of the Plan contains measures aiming at protecting and restoring ecosystems and natural habitats and species of European and national importance. The reforms and investments in this component are expected to contribute to building an effective Natura 2000 management structures in the country, as well as to restoring climate-related ecosystems and protecting biodiversity.

The Plan includes measures that aim at enhancing the sustainable management and competitiveness of the Bulgarian agricultural sector in the context of the green transition. In particular, the Plan includes a reform for adopting a National Action Programme, which is expected to set out a framework for the management and protection of the environment and natural resources in the field of agriculture. The Plan also includes dedicated investments that consist of setting up a Fund for promoting the technological and ecological transition of the Bulgarian agricultural sector, as well as a digitalisation measure that is expected to facilitate the automated data exchange between the administration and farmers.

The Plan further supports research and innovation in the field of green and digital technologies and includes measure for the support of businesses in their sustainability enhancing investments. In particular, the Plan includes the following measures: a grant investment scheme for combining renewable electricity with local storage (EUR 102 million), a grant scheme for the transition to circular economy (EUR 73.6 million), a guarantee financial instrument for energy efficiency and renewable energy (EUR 75 million), and an equity instruments for climate neutrality and digital transformation investments (EUR 30 million).

Digital transformation

The Plan's reforms and investments are expected to effectively contribute to the digital transition. Digital measures are included in eleven out of twelve components of the Bulgarian Plan reflecting the broad and crosscutting nature of the envisaged digitalisation efforts. A significant allocation to the digital transition is included in component 7 (Digital Connectivity). Investments and reforms in digital connectivity include the roll-out of very high capacity networks in rural and sparsely populated areas, which are lagging behind in terms of digital inclusion. The measures thus contribute to reducing the urban-rural divide in connectivity and increase the national broadband coverage. The reforms included in the Plan aim to contribute to the development and implementation of an effective policy and regulatory framework, the efficient use of the radio frequency spectrum for the development of 5G networks and services and the creation of a favourable investment environment. The Plan also features an investment in the digitalisation and modernisation of the Bulgarian Post Office with the aim to provide e-government in rural and remote areas where the public administration is not present and other services (such as capturing biometric data for Bulgarian Identity Documents), thus contributing to enhancing territorial cohesion and access to e-government as well as other complex services across the whole territory of Bulgaria.

A strong focus of the Plan is the acquisition of digital skills. Component 1 (Education and Skills) includes significant measures such as creating STEM laboratories in schools, including high-tech classrooms, is expected to promote digital literacy and enhance teaching methods of STEM subjects. The setting up of youth centres are expected to foster young people's skills, including digital skills. Other targeted investments include digital skills trainings and the establishment of a national online platform for adult learning. Measures aimed at re-skilling and upskilling and adult learning are expected to contribute to increasing employability by enhancing skills, including digital skills, and increasing the quality and inclusiveness of education, which can in turn support the digital transition.

Measures included in many components across the Plan represent a very significant effort towards the provision of digital public services, digitalisation of public administration, including the judiciary, and raising digital administrative capacity. In particular, the component on business environment includes measures aimed at the digitalisation of the construction sector, the judiciary, the digitalisation of data and registries in the public administration, and the provision of digital public services to citizens and businesses. The investment in Component 7 concerning the digitalisation and modernisation of the Bulgarian Post Offices will enable the provision of e-government and administrative services also in remote and sparsely populated areas. Component 11 (Social Inclusion) also includes measures targeting the digitisation of museum, library and audiovisual funds and aimed at digitalisation of the related systems for the provision of employment services and of the business processes of the social and solidarity economy enterprises and organisations. The healthcare component features measures that contribute to the digitalisation of systems and platforms used for the provision of healthcare services (such as a digital platform for medical diagnosis, a telemedicine platform and a digital platform to improve emergency 112 number communication) and improving the resilience of the healthcare system. The Plan also supports the extension of the national coverage of the TETRA system to enhance the capabilities for coordination and management of crisis prevention and other national security issues. The Plan also includes measures aimed at improving the quality and output of research and innovation also through the investment in digital technologies at research institutions and at supporting the digitalisation of businesses, in particular small and medium-sized enterprises, through a grant scheme for ICT solutions and cybersecurity in SMEs.

Significant contributions to the digital objectives are also included in component 8 (Sustainable Transport). It has investments in the digitalisation of rail transport, road safety and sustainable transport, component 9 (Local Development) with investments in the digitalisation of the control, management and efficient use of water and in component 4 (Low-carbon economy), with investments in the digital transformation of the Energy System Operator and with significant investments in national electricity storage energy infrastructure.

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

The Plan covers the third pillar effectively, including a series of important reforms and investments. These are aimed at improving the research and innovation ecosystem, further developing e-government services, digitalizing the construction sector by introducing Building Information Modelling, creating favorable conditions for private investment and supporting businesses, in particular small and medium sized enterprises and enterprises and auto-entrepreneurs of the creative and cultural sectors

The Plan includes measures aimed at improving the innovation output of Bulgaria, fostering the technology transfer and commercialization of research results, thus spurring its economic growth in the medium and long term. In terms of reforms, the research and innovation component includes the establishment of the Ministry of Innovation and Growth, with the mandate to define the innovation policy, supporting the enhancement of innovation output and innovation-driven culture, the transfer of technology and knowledge, and the promotion of scientific development in the industry. The newly established Ministry shall steer, together with the Ministry of Education and Science, the preparation of the Research and Innovation Act, which, once entered into force, will define the legislative parameters of the national policy for the development and financing of research, innovation and technology and regulate the role of each of the institutions involved in research and innovation policy. The creation of an Innovation Board composed of experts, with advisory functions, is expected to support the definition and implementation of innovation policy and ensure effective involvement of all the relevant stakeholders. The Plan further contains investment measures aimed at providing funds for research and innovation activities by SMEs and higher education institutions and at enhancing the innovation capacity of the Bulgarian Academy of Science, by upgrading and renovating its infrastructure and by financing research projects in particular in the field of green and digital technologies. Measures in the Plan also support the promotion of the products and services of the cultural and creative sectors.

A coherent package of measures in the Plan aim to create favourable conditions for investments in industrial parks and zones. This is achieved first through the entry into force of the Industrial Parks Act, which aims at defining, among other things, the rules governing the parks and the benefits for investors. In addition, a dedicated competitive grant scheme addressed at parks and zones operators is expected to support the creation of the infrastructure for the effective establishment of businesses. Furthermore, the Plan contains an extensive programme for supporting the innovation and growth of Bulgarian businesses in their green and digital transition. The programme, mainly addressed at SMEs and mid-capitalization companies, is composed of a guarantee schemes, equity instruments and competitive grants, including dedicated support schemes for growth and technological modernization, for innovation, for information and communication technology and cybersecurity in SMEs, for renewable energy systems and energy storage facilities, for energy efficiency and renewable energy, for climate neutrality and digital transformation investments. Overall, the plan will contribute to achieving the objectives of the

updated Industrial Strategy¹³ for making the EU industry more competitive globally, enhancing open strategic autonomy and fostering the twin transition.

Social and territorial cohesion

The Plan extensively covers the fourth pillar, contributing adequately to its overall coherence. The Plan contains some measures that are expected to contribute to addressing the country's challenges in the area of up- and re-skilling, with a focus on vulnerable groups. The education and skills component is expected to contribute to improving labour market inclusion by providing trainings addressing skills shortages, including digital skills, of a large fraction of the Bulgarian population. Trainings are expected to be carried out in person and through an online platform for adult learning linked to the public employment services. Support to attend trainings, with a focus on vulnerable groups, is expected to be provided throughout the country via the establishment of a network of digital clubs, where access will be granted free of charges. Similarly, the investment in youth centres targets the labour market integration and skill development of young people, with a focus on the youth from vulnerable groups, including Roma. Additional measures are expected to increase the labour market relevance of the educational and training systems, notably a reform of the regulatory frameworks for higher and vocational education and training, complemented by an investment in educational infrastructures, which also covers vocational upper secondary schools.

A number of measures in the Plan are expected to strengthen social cohesion, with the potential to contribute to addressing the shortcomings in the provision of employment services and of the Bulgarian social protection system. Employment services are expected to improve as a result of the implementation of measures included in the social inclusion component, namely an investment targeting the modernisation of the IT systems of the Employment Agency, with positive implications for the quality of the service provision of the Agency. The social inclusion component also includes a reform of the minimum income scheme benefitting adults and children, which is expected to contribute to addressing social challenges observed in the areas of poverty, social exclusion and income inequality, and an investment to promote the products and services of the social and solidarity economy enterprises and organisations, thus supporting the further development of the social economy.

Further territorial cohesion is expected to be fostered by a number of measures which focus on providing services to underserved areas. The digital transformation of Bulgarian posts, under the Digital Connectivity component, aims at providing comprehensive administrative and e-government services, including telemedicine, in modernised postal offices located in remote and rural areas, with limited access to the public administration. Similarly, the Plan includes an investment aiming at deploying broadband connection in rural and sparsely populated areas, under

¹³ COM(2020) 102 final, https://ec.europa.eu/info/sites/info/files/communication-eu-industrial-strategy-march-2020_en.pdf and COM(2021) 350 final https://ec.europa.eu/info/sites/default/files/communication-industrial-strategy-update-2020_en.pdf

the Digital Connectivity component, and, within the Healthcare component, the set-up of outpatient units in remote areas. In addition, component 10 – Business Environment aims at improving the accessibility of citizens to the justice system by broadening the scope of free legal assistance and exemptions from court fees and by enabling remote hearings and electronic submission of documents. Territorial cohesion is also expected to benefit from the establishment of an air ambulance system, which will allow for the transportation of people affected by a situation of emergency throughout the country, including in hard-to-reach areas. In addition, the Plan should further contribute to reducing territorial disparities through reforms supporting a place-based, bottom-up approach as well as dedicated infrastructure investments in the water sector in regions outside of the capital. Moreover, specific investments are planned to cover smaller agglomerations across the country and in rural areas and Natura 2000 protected sites, through the biodiversity and sustainable agriculture components.

The Low-carbon economy and sustainable transport components have a solid territorial approach in terms of investments in infrastructure, covering several regions of the country.

While investments related to energy efficiency of the building stock are expected to be spread across the country, railway digitalisation is expected to be improved in the Ruse-Caspichan section, along with the on-board equipment that is expected to operate in the TEN-T comprehensive network. The construction of an intermodal terminal in Ruse and the improvement of conditions regarding road safety are other examples of decentralized investments with a strong territorial dimension. In addition, to ensure that the coal regions are supported through the transition and that no one is left behind, the reforms and investments towards decarbonisation of the economy will set the ground for cohesion policy investments notably through the JTF.

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

The Plan covers the fifth pillar with a number of important investment and reforms that are expected to increase health resilience. The Plan includes a coherent package contributing to addressing the challenges of the Bulgarian health system. Notably, a new national strategy on health, and measures that aim at strengthening the accessibility of the health system by improving access to quality healthcare services across the country, including in remote and rural regions; developing outpatient care further; introducing a legislative package and other actions to promote a more balanced distribution of healthcare professionals and establishing an air ambulance system. In addition, the plan envisages measures that are expected to improve access to quality paediatric care, to modernise cancer treatment, and to develop e-health further. In particular, the further development of digitalisation in healthcare and of e-health services are the focus of a dedicated reform, which is complemented by the completion of the National Health Information System and the set-up of medical platforms covering a number of healthcare areas, including medical diagnostics and the provision of telemedicine services.

The Plan also strengthens Bulgaria's social resilience and crisis preparedness. Under the Social Inclusion component, social resilience is expected to be strengthened via the modernisation of the provision of social services, including long-term care, which are expected to contribute to moving the deinstitutionalisation process forward, as well as by the provision of support to people with disabilities and the promotion of the social economy and the cultural and creative sectors. In addition, the set-up of an air ambulance system and the upgrade and further development of the radio-communication system TETRA and of the national emergency number are expected to increase the crisis preparedness and reaction capacity of Bulgaria.

In addition, the Plan fosters Bulgaria's institutional and economic resilience. Measures under the business environment component should effectively strengthen the potential for sustainable growth and increase the resilience of the Bulgarian economy by addressing disincentives in the business environment and by increasing the efficiency of the judicial system and insolvency procedures, also benefitting from the opportunities provided by digital transition. A significant number of reforms and investments are expected to reinforce the institutional framework. These include, among others, reforms to create a mechanism for the accountability and criminal liability of the Prosecutor General, the improvement of accessibility, effectiveness and predictability of the justice system; the enhancement of the role of the Inspectorate of the Supreme Judicial Council in the prevention and counteracting corruption; the establishment of a new anti-corruption body; the introduction of mandatory judicial mediation; and the improvement of the insolvency procedure. Furthermore, reforms and investments cover areas such as the digitalisation of the public administration, anti-money laundering, the quality of legislative processes, public procurement, and audit and control mechanisms.

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

The Plan covers the sixth pillar through measures in the areas of education and skills which are expected to improve access to quality education and skill development. The Plan aims at improving the accessibility, quality and effectiveness of the education and training systems through the construction and renovation of educational infrastructures and youth centres across the territory. The promotion of science, technology, engineering and mathematics (STEM) fields in Bulgarian schools, envisaged under the plan, is also expected to make an important contribution to improve the quality and labour market relevance of the education system. In addition, an additional number of children are expected to be reached by the educational system as a result of the progressive inclusion of four-year-olds in the educational system. The implementation of distance and hybrid forms of learning, which is covered by a reform in the Plan, is also expected to contribute to the further improvement of the educational system, for its potential to ensure the continuity of the educational offer targeting children and students.

Taking into consideration all reforms and investments envisaged by Bulgaria, its Plan represents, to a large extent a comprehensive and adequately balanced response to the economic and social situation, thereby contributing appropriately to all six pillars referred to in Article 3 of the RRF

Regulation, taking the specific challenges and the financial allocation of Bulgaria into account. This would warrant a rating of A under the assessment criterion 2.1 in Annex V to the RRF Regulation.

4.2. Link with country-specific recommendations and the European Semester

According to the Regulation, the Plan is expected to address a significant subset of challenges identified in the relevant country-specific recommendations issued to Bulgaria both in 2019 and 2020. The Plan puts forward an ambitious reform and investment agenda, with the potential to strengthen sustainable growth and increase the overall resilience of the Bulgarian economy.

Reforms and investments under the business environment component contribute to addressing several country-specific recommendations. The measures included in the component contribute to addressing country-specific recommendation 3 of 2019 in relation to improving business environment, and country-specific recommendation 4 of 2020 in relation to minimising administrative burden to the companies by improving the effectiveness of public administration and reinforcing digital government; ensuring an effective functioning of the insolvency framework; improving the governance of state owned enterprises, strengthening public procurement and fighting corruption. Among the proposed measures are also the amendments to the Rules of Procedure of the National Assembly that aim to increase both the quality and predictability of the legislative process by introducing impact assessments for all draft legislation proposed by Members of Parliament, increasing transparency, and establishing rules to limit proposals for amendments and supplements that refer to other legislative acts. In addition to that, a number of reforms aim to enhance the potential of e-government and e-justice, such as the digitalisation of the judiciary that would enable judicial acts to be drafted as electronic documents, a fully electronic submission of documents and holding remote court sessions. All these measures should help to increase transparency, lower the administrative burden and in general foster a better investment climate. Some progress has been made with the recommendations on the improvement of the tax collection, particularly in the context of labour and fuel taxes, and there are several ongoing projects under the Technical Support Instrument involving the National Revenue Agency and targeting this area. However, they are not expected to fully address the country specific recommendation on tax collection (CSR 1, 2019), and no specific measures to address it are included in the Plan. Finally, in the country-specific recommendations for 2019, the financial sector features prominently but this has not been taken up in the Plan as there has been substantial progress with the banking and insurance sector supervision. Also, on 10 July 2019, following the fulfilment of the necessary supervisory and legislative prerequisites, the European Central Bank and the Bulgarian National Bank established close cooperation and Bulgaria entered into the Banking Union.

An important set of measures address challenges identified in the country-specific recommendations that are also covered by the commitments taken by Bulgaria upon its entry in the Exchange Rate Mechanism (ERM II). The reforms are expected to improve the governance of the state-owned enterprises by ensuring consistency between the composition of the

boards and the selection procedures set out in the Law on Public Enterprises as well as adopting a state ownership policy that would maximize benefits to society through an efficient allocation of resources. In addition to that, the effectiveness of insolvency procedures will be increased thanks to the adoption of the Law on Insolvency of Individuals as well as adopting legislative amendments to the Commercial Law on the Insolvency Framework including full transposition of Directive 2019/1023. There are also measures aiming to improve the implementation of the anti-money laundering framework, including by enhancing the capacity as well as the analytical capabilities of supervisors. For this purpose, the Plan foresees, among others, the adoption and monitoring of a supervisory strategy as well as screening procedures for employees in management positions. In addition to that, an IT tool for processing and analysing suspicious transaction reports will be put in place together with action plan to monitor the money laundering and terrorist financing risks.

The rule of law challenges in Bulgaria are monitored through the Cooperation and Verification Mechanism (CVM) and the Rule of Law Report. Due to this specific monitoring regime of the CVM, this area is covered in the European Semester only as a part of a dedicated recital to the country-specific recommendations and also as a part of the Country Report analysis. The Plan addresses a number of challenges identified in the CVM, the Rule of Law Report and also the recitals to the country-specific recommendations, such as: problems with the functioning of the judiciary, corruption and issues with the accountability and criminal liability of the Prosecutor General. For the latter, important elements are the introduction of necessary safeguards and guarantees for an independent investigation of the Prosecutor General and his/her deputies; possibility for a judicial review of a prosecutor's decision not to open an investigation, and annual reporting by the Prosecutor General on investigations and convictions in corruption cases. Anti-corruption measures, include the set-up of a new anti-corruption body with criminal investigation powers, introduction of legislative measures to protect whistle-blowers and to regulate lobbying activities, and establishment of an integrity verification mechanism for civil servants occupying positions that have a high corruption risk.

A number of measures in the Plan are expected to address the main challenges of the Bulgarian energy and transport sectors. These investments and reforms address the country-specific recommendations of 2019 and 2020 to focus investment-related economic policy on energy infrastructure and energy efficiency (CSR 3, 2019) and to focus investment on the green and digital transition, in particular on clean and efficient production and use of energy and resources, environmental infrastructure and on sustainable transport, contributing to a progressive decarbonisation of the economy, including in the coal regions (CSR 3, 2020). In particular, measures included in the Plan are expected to facilitate and accelerate the deployment of renewable energy sources and storage and result in a significant reduction of greenhouse gas emissions from power production thus contributing to the progressive decarbonisation of the economy. In particular, the Plan envisages the adoption of a legislative framework for the decarbonisation of electricity, including a binding timetable for the phase out of coal and lignite use and targets and regulatory CO₂ emission cap ensuring by 2026 a 40% emission reduction compared to 2019. Important reforms are also envisaged to remove bottlenecks for the deployment of renewables (e.g.

simplify licensing and permitting procedures for RES, introduction dedicated ‘go-to’ areas where onshore wind parks would be compliant with environmental legislation) and energy efficiency investment (e.g. amendments to the Condominium Act and one stop shop). The Plan also includes a key reform aiming to establish a competitive wholesale and retail markets, which also facilitates access of renewables to the electricity markets, and improving the corporate governance in the energy sector to ensure more transparency and a level playing field. The carbon footprint of the transport sector is also expected to be reduced by reforming the road and railways sectors and investing in the modernisation and digitalisation of the railways and sustainable urban mobility. This includes railways investments focused on new zero-emission rolling stock, the European Rail Traffic Management System deployment, as well as the incentives for the registration of zero-emission vehicles and the introduction of the low-emission zones in the biggest and most polluted district cities. Finally, the Plan includes important measures to enhance road safety and reduce the number of victims from road accidents by 30% between 2019 and 2025.

The Plan includes reforms and investments fostering the green and digital transitions and promoting energy efficiency and the requalification of environmental infrastructures. Besides the measures focused on the transition to green, circular and digital-oriented business practices for small and medium-size enterprises, the Plan includes the financing of research projects to enhance the innovation output of the Bulgarian Academy of Science, with a particular focus in the field of green and digital technologies. The Plan also aims to reduce both primary and final energy consumption via the renovation of the national stock of residential and non-residential buildings, both public and private. There is also a focus on the competitiveness and sustainable development of the regions of the country and promoting local development. This includes a revision of the management of the water and agricultural sectors, as well as the construction and/or renovation of the water supply and sewerage system. It should be noted however, that alone the measures included in the Plan, which address Bulgaria’s weak performance in resource productivity and circular economy, are not of the magnitude required to reduce the gap with the EU average.

Measures fostering the availability of digital infrastructures, access to distance working and the enhancement of digital skills are expected to support the digital transition. They help to address the 2019 and 2020 country-specific recommendations. In particular, strengthening employability by reinforcing digital skills (CSR 4, 2019), improving access to distance working and promoting digital skills and equal access to education (CSR 2, 2020), focusing investments on the green and digital transition (CSR 3, 2020), and minimising administrative burden to companies by improving the effectiveness of public administration and reinforcing digital government (CSR 4, 2020). Measures included under the Plan cover the large-scale deployment of digital infrastructure, the digitalisation of administrative services, as well as revisions to the regulation concerning distance working. The Plan also promotes skills relevance and adult learning, with a focus on digital skills. This encompasses changes to the regulatory frameworks for higher and vocational education and training and the development of an online platform for adult learning

linked to the public employment services. Together with the accompanying reforms, the investments aim to enhance a favorable investment environment and the skills of the Bulgarian population.

The Plan is expected to foster social inclusion and to improve access to education, adult learning and healthcare. A number of measures in the Plan are expected to contribute to addressing related challenges identified in the 2019 and 2020 country-specific recommendations namely they are expected to contribute to: ensuring adequate social protection and essential services for all and strengthen active labour market policies and addressing the shortcomings in the adequacy of the minimum income scheme (CSR 2, 2020); improving employability by enhancing skills, including digital skills and increasing the quality, labour market relevance and inclusiveness of education and training (CSR 4, 2019); and improving access to integrated employment and social services (CSR 4, 2019). To foster social inclusion, the Plan includes a reform of the minimum income scheme to increase its adequacy and coverage as well as measures to improve the provision and integration of employment and social services. Although the reform of the minimum income and its eligibility rules are expected to lead to significant improvements in the level of social protection, there is still room for further improvements, considering the very low starting point. A number of measures in the plan, within the local development, transport and digital connectivity components, also contribute to widening access to essential services, such as water, transport, and digital communication. Relevant measures in the field of education and training include measures for the enhancement of the relevance of higher education with the aim of addressing labour market shortages and promoting research, as well as digital skills courses for adults and a platform for adult learning. The Plan also includes a reform of the mandatory pre-school education as of the age of four and envisages the construction and renovation of educational facilities, which are expected to improve access to education.

As one of the critical sectors for achieving crisis preparedness and resilience, the health sector is specifically supported by a dedicated component in the Plan. There are measures that are expected to contribute to addressing healthcare related challenges identified in the country-specific recommendations, specifically: mobilising adequate financial resources to strengthen the resilience, accessibility and capacity of the health system, and ensuring a balanced geographical distribution of health workers (CSR 1 2020), as well as improving access to health services and addressing shortages of health professionals (CSR 4 2019). Improved provision and availability of health services across Bulgaria is expected to be achieved via the set-up of outpatient care units with a focus on remote areas with no healthcare access within a reasonable distance, complemented by measures addressing shortages of healthcare professionals and their geographical distribution, as well as via the enhancement of the provision of telemedicine services, and the establishment of an air ambulance system. However, the high ‘out-of-pocket’ payments are not addressed in the Plan.

The Plan also covers measures for restructuring and further development of the research and innovation ecosystem as well as provision of support for small and medium-sized enterprises. These measures contribute to addressing the country-specific recommendations of 2019 and 2020, namely: focusing investment-related economic policy on research and innovation (CSR 3, 2019) and streamlining and accelerating the procedures to provide effective support to small and medium-sized enterprises and self-employed (CSR 3, 2020). These measures include a new legislative framework for R&I development and research universities, alongside new instruments for the funding of research. With those measures, Bulgaria is setting a more coherent framework for R&I as a driver of future growth. The measures are also expected to contribute to pooling national and EU resources to overcome the current fragmentation of the ecosystem. The Plan also contains measures focused on attracting industrial investments and supporting small and medium-sized enterprises in modernising their technology and in their transition to green, circular and digitally-oriented business practices.

The Plan is expected to contribute to the competitiveness and sustainable development of the regions of the country and to local development. This includes a revision of the management of the water and agricultural sectors, as well as the construction or renovation of the water supply and sewerage system. Moreover, local development should be promoted through a new regional policy approach and dedicated reforms expected to foster the direct involvement of local communities in the management of European funds. These measures contribute to addressing the country specific recommendation on focusing investment-related economic policy on water and waste infrastructure, taking into account regional disparities (CSR 3, 2019).

All the measures contained in the Plan will help to address the social and economic challenges in a comprehensive manner and to boost the growth potential of the economy in a sustainable way. Taking into consideration the reforms and investments envisaged by Bulgaria, its Plan is expected to contribute to effectively addressing all or a significant subset of challenges identified in the country-specific recommendations, or challenges in other relevant documents officially adopted by the Commission under the European Semester, and the Plan represents an adequate response to the economic and social situation of Bulgaria. This would warrant a rating of A under the assessment criterion 2.2 in Annex V to the RRF Regulation.

Table 6: Mapping of country challenges identified in 2019-20 country-specific recommendations and the Bulgarian RRP components

Country challenges (as identified in Section 2)	Associated CSR (2019-2020) and European Semester recommendations	Component 1- Education and skills	Component 2- Research and innovation	Component 3 - Smart industry	Component 4- Low-carbon economy	Component 5- Biodiversity	Component 6- Sustainable agriculture	Component 7- Digital connectivity	Component 8- Sustainable Transport	Component 9- Local development	Component 10- Business environment	Component 11- Social inclusion	Component 12- Healthcare
Accessibility, resilience and capacity of health services, including addressing shortages of healthcare workers and reducing out-of-pocket-payments	2019.4.5, 2020.1.2							○	○	○			○
Social protection and essential services for all, enhancing the improving of social and employment services	2019.4.3, 2020.2.1							○	○	○		●	
Strengthen active labour market policies	2020.2.2	●										○	
Improve access to distance working	2020.2.3							●		○			
Promote digital skills and access to education	2019.4.1, 2020.2.4 2019.4.2, 2020.2.5	●											
Shortcomings of the minimum income	2019.4.4, 2020.2.6											●	
Effective support to small and medium-sized enterprises and self-employed	2020.3.1			●									
investment on the green and digital transition, in particular on clean and efficient production and use of energy and resources	2019.3.3, 2020.3.5	○	○	●	●	○	○	●	○		●	○	○
Investment in environmental infrastructures	2019.3.3, 2020.3.6									●			
Investment in sustainable transport gradual decarbonisation of the economy, including in coal regions	2019.3.2, 2020.3.7			○	●			●					
Effectiveness of public administration and reinforcement of digital government, effective functioning of the insolvency framework and of supervision and enforcement of the anti-money laundering framework	2019.2.8, 2019.2.4, 2019.3.4, 2020.4							○			●	○	

Country challenges (as identified in Section 2)	Associated CSR (2019-2020) and European Semester recommendations	Component 1- Education and skills	Component 2- Research and innovation	Component 3 - Smart industry	Component 4- Low-carbon economy	Component 5- Biodiversity	Component 6- Sustainable agriculture	Component 7- Digital connectivity	Component 8- Sustainable Transport	Component 9- Local development	Component 10- Business environment	Component 11- Social inclusion	Component 12- Healthcare
Corporate governance of State-owned enterprise	2019.1.2									●			
Focus investment-related economic policy on research and innovation	2019.3.1		●	○				○					
Improve tax collection through targeted measures in areas such as fuel and labour taxes*	2019.1.1												

Key: “●” investments and reforms of the component significantly address the challenge; “○” the component partially addresses the challenge

* Some progress has been made with the recommendation and this area is covered outside of the Plan

4.3. Growth potential, job creation, economic, institutional and social resilience, European Pillar of Social Rights, mitigating the impact of the crisis, and social territorial cohesion and convergence

Fostering economic growth and jobs

The Plan aims to accelerate the economic recovery in Bulgaria and to improve long-term growth through an ambitious agenda of investments and reforms. The Plan includes measures with the potential to improve Bulgaria’s growth, job creation, and economic, social and institutional resilience. The Plan also aims to contribute to the implementation of the European Pillar of Social Rights, including through the promotion of policies to foster social inclusion, and to mitigate the economic and social impact of the COVID-19 crisis, thereby enhancing the economic, social and territorial cohesion and institutional resilience.

The Plan is designed to support economic growth and job creation through a number of investments and reforms. According to the Bulgarian authorities, measures envisaged under the Plan are also expected to have significant positive economic impacts in the coming years and also in the long term. The main contributions to both economic growth and employment, as presented by the authorities, are expected to come from investments and reforms in the Low Carbon Economy and the Smart Industry components. In addition, the Business Environment component should also contribute to strengthen the economic growth through the improvement of the

institutional framework, including the digitalisation of the public administration and the construction sector, and other reforms and investments aimed at increasing the efficiency and quality of processes in areas such as justice, the fight against corruption, the governance of state owned enterprises, anti-money laundering, insolvency procedures, public procurement, and audit and control mechanisms.

Policies related to education and skills largely aim at achieving the objectives of increasing socio-economic resilience and fostering productivity growth through the acquisition of skills, including digital. Key policies include, among others, the enhancement of higher education with the aim of addressing labour market shortages, the development of a platform for adult learning linked to the public employment services and the establishment of youth centres, which target the inclusion in the labour market of young people, with a focus on young people from vulnerable groups, including Roma. Those measures should contribute to strengthen the employability and productivity of the workforce, including of vulnerable groups, thus enhancing economic growth.

Investment and policies under the low carbon economy component aim to reduce the carbon footprint and energy intensity of the economy. Envisaged measures should facilitate the green transition by improving the energy efficiency of residential, public and business buildings, as well as by promoting renewable energy production. Key policies include, among others, a scheme to support the decarbonisation process through substantial investments and reforms, to accelerate deployment of renewables to reduce emission and replace coal and lignite, as well as the completion of the ongoing electricity market reform towards full liberalization. These should ultimately improve the country's competitiveness and growth potential and should also help to meet climate goals. Furthermore, policies under low carbon economy component would also lead to long-term positive effects on the economy. Reducing energy costs for consumers and businesses will result in savings of financial resources freed to be invested in other sectors of the economy or reinvested. The planned interventions should also increase social sustainability in many aspects through improving the living conditions of households and quality of life of population in terms of reduced air pollution.

Investments and policies under the smart industry component aim at supporting businesses in the twin transition. Envisaged measures should facilitate the decarbonisation of the economy and contribute to attracting industrial investment and developing industrial ecosystems, as well as supporting the development of industrial parks and improving their infrastructure connectivity. Key policies include, among others, a mechanism to attract industrial investment and develop industrial ecosystems and a public support programme for the development of industrial districts, parks and similar territories. These should contribute to increasing the productivity of the Bulgarian enterprises.

Other components are expected to play a substantial role on mitigating the social impact of the COVID-19 crisis. This is notably the case for social inclusion, where the pandemic showed that the degree of resilience to shocks of the social protection systems in the country is not

sufficient to fully ensure adequate support and assistance to all the groups in society, especially vulnerable groups, and for healthcare. Measures under the social inclusion and healthcare components of the Plan should contribute to improve the overall social support system and increase the resilience of the health system. Namely, this is expected to be achieved via a reform contributing to addressing the shortcomings of the minimum income scheme, with implications for the reduction of poverty and inequality, and through measures targeting population's access to quality and timely healthcare.

Investment and policies related to Research and Innovation are aimed at providing a favourable environment for the realisation of new products and processes and the development of innovative enterprises. This is a key precondition for creating a high-tech industrial base that would propel the economy onto a higher growth trajectory. Key policies include, among others, a new governance structure and legislative framework for research and innovation, together with instruments for the funding of research. This should ultimately help to close the significant gap compared to the EU average spending on research and improve the ability to maintain and attract talent, thereby strengthening the country's competitiveness and, ultimately, economic growth.

Policies and investments related to digital connectivity aim at increasing investment in high-capacity digital infrastructure. These should contribute to an increase in coverage and ensure equal access to broadband services, paving the way forward for the digital transition. The improvement in communications and data processing capacity should result in positive effects in terms of social inclusion, e-government, efficiency of public administration and the reduction of administrative burden on businesses. These would positively contribute to boosting economic efficiency and productivity.

Policies and investments related to transport aim at increasing the sustainability of the transport sector by reducing its carbon footprint and improving road safety. Measures under this component will be key in the context of the green transition, given the significant share of the transport sector in greenhouse gas emissions. This will be achieved through the creation of a legislative framework (the law on promoting electric mobility) as well as through a number of investments aimed at the modernisation and digitalisation of the public transport through the acquisition of a zero-emission rolling stock, deployment of the European Rail Traffic Management System or construction of a new segment of metro in Sofia. Road safety measures should lead to a 50% reduction of road safety blackspots/hotspots. As a result, overall mobility of the population would improve, enhancing trade, industry development and economic growth.

Box 2: Stylized NGEU impact simulations with QUEST - Bulgaria

Model simulations conducted by the Commission using the QUEST model show that the economic impact of the NGEU in Bulgaria could lead to an increase of GDP of between 1.9% and 3% by 2026. After 20 years, GDP could be 1.1% higher. Spillovers account for an important part of such an impact.

According to these simulations, this would translate into up to 36 000 additional jobs. Cross border (GDP) spillovers account for 0.6 pp in 2026, showing the value added of synchronized expenditure across Member States (line 2). Even assuming that half of the expenditure is not productive, this still leads to a significant impact (line 3).

Table 1: QUEST simulation results (%-deviation of real GDP level from non-NGEU case, linear disbursement assumption over 6 years)

Scenario	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040
Baseline	1.5	2.5	2.5	2.6	2.8	3.0	2.2	1.5	1.6	1.7	1.1
<i>of which spill over</i>	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.2	0.1
Low productivity	1.2	2.1	1.9	1.8	1.9	1.9	1.1	0.3	0.5	0.5	0.5

This stylized scenario does not include the possible positive impact of structural reforms, which can be substantial. A model-based benchmarking exercise shows that undertaking structural reforms that would result in halving the gap vis-à-vis best performers in terms of indicators of structural reforms could raise Bulgaria GDP by 9% in 20 years time, in line with findings for the EU average.

Due to the differences in the assumptions and methodology, **the results of this stylized assessment cannot be directly compared to the numbers reported in chapter 4 of Bulgaria's Plan.**

Strengthening social cohesion

Reforms and investments in education and skills are expected to address the persistent and significant skills gaps. These measures create the conditions for increasing economic and social resilience and are a powerful tool for social inclusion. The Bulgarian population is characterized by a relatively high percentage of low-skilled persons and low participation of the population (25-64) in lifelong learning with 2.0% in 2019 against 11.3% for EU-28. In addition, the share of people with at least basic digital skills is around 29% of the Bulgarian population aged 16-74, while the EU average is 56%. Only 11% of people have skills above basic skills, representing a third of the EU average. To revert this situation, the Plan contains an important component on education and skills that is expected to deliver far-reaching structural changes to the Bulgarian education system. The strengthened policies on education and skills, including digital, lifelong learning and vocational training- should contribute to addressing Bulgaria's challenges in this field. Important reforms and investments are also foreseen under the research and innovation and digital connectivity components to further reduce skills deficits.

Bulgaria faces a significant gender inequality challenge in terms of employment rate. In 2020, employability rate for the group age 20-64 was 8.9 pp higher for men. The Plan is expected to improve the overall employability of the population through a transversal promotion of equal opportunities, enhancing a more inclusive and resilient labour market. The Plan also covers investments in kindergartens and a reform on the mandatory inclusion of 4-year olds in pre-school education, which should support the labour market participation of women.

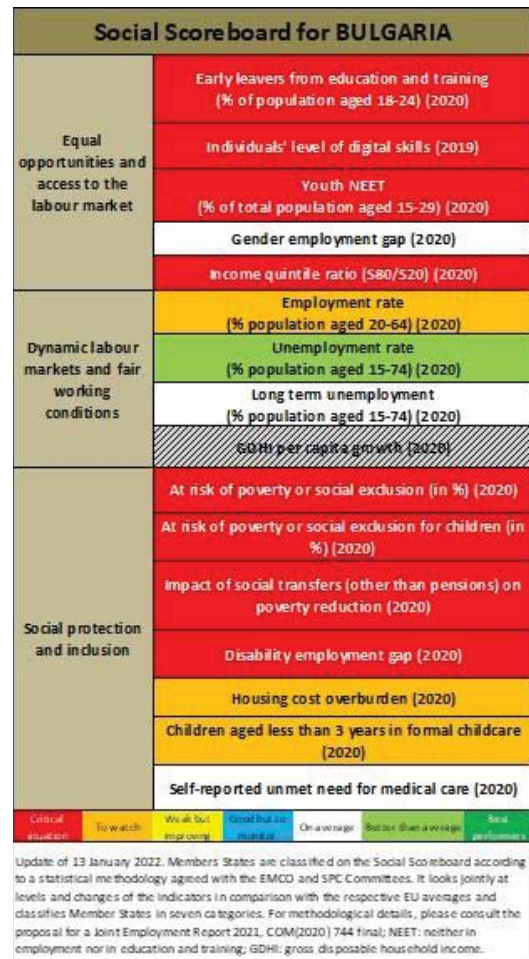
Bulgaria envisages to reshape the regional policy framework and to promote local development. In the years since the country's accession to the EU, intra-regional disparities have significantly deepened. Also, the urban-rural axis reveals that the regional development disparities remain a challenge. To revert this situation, the Plan includes important measures to reshape regional policy by fostering direct involvement of local communities in the management of the European funds and instruments. This should strengthen their role in the preparation and implementation of the integrated territorial strategies and projects, resulting in a greater policy effectiveness. Several regions need to address the scarcity of drinking water by providing new and/or reserve water sources for the population. A large part of the population has a relatively low income, which requires the cost of services in the sector to remain socially sustainable. Alongside with the new regional development approach, the Plan envisages the continuation of the water sector reform by improving the regulatory environment. These measures should increase the competitiveness and sustainable development of the regions of the country as well as the promotion of local development.

The Plan is expected to improve the effectiveness, adequacy and coverage of the social support system. Bulgaria faces structural challenges in the field of social inclusion with poverty, social exclusion and income inequality recording very high levels. These indicators, monitored through the Social Scoreboard accompanying the European Pillar of Social Rights, highlight the need for additional efforts to reduce social inequalities and make growth more inclusive (see Box 3). The relative share of people at risk of poverty is among the highest in the EU. The risk of poverty is significantly higher for some of the most vulnerable groups of the population. A significant share of the population over working age (65+) was at risk of poverty or social exclusion in 2020 and just under one third of this population suffered severe material deprivation. Measures envisaged by the Plan aim at increasing the effectiveness, adequacy and coverage of the social support system by introducing a holistic approach to providing social support to persons and families from vulnerable groups and by the codification of social legislation. Key policies include the mitigation of shortcomings in the adequacy of the minimum income scheme, the completion of the reform on social services and an investment targeting the modernisation of the provision of long-term care for older people and people with disabilities.

Box 3: Employment, skills and social policy challenges in light of the Social Scoreboard accompanying the European Pillar of Social Rights

The Social Scoreboard points to a recovering labour market, but overall outcomes remain below the pre-crisis period. The employment rate stood at 73.4% in Q3-2021, 0.7 pp below the previous year, and below the EU average (73.6%), against the background of a working-age population that is expected to decrease by 12.5% by 2030. For the low-skilled, the employment rate (48.1% in 2020) remains well below the EU average (55%) and is significantly lower (39 pp) than for the high-skilled. Moreover, the share of young people (15-29) neither in employment, nor in education or training (NEET) is high (18.1% in 2020 compared to 13.8% on average in the EU). At the same time, the employment rate of workers aged 55-64 increased steadily (from 54.5% in 2016 to 64.2% in 2020), surpassing the EU average (59.6%). The disability employment gap is well above the EU average (33 pp vs 24.5 pp), with an employment

rate of persons with disabilities of 43.1% in 2020, compared to 76.1% for those without. In 2020, only 47% of the Roma were engaged in any form of paid work.



The Social Scoreboard also highlights social challenges, including high levels of income inequality and risk of poverty or social exclusion. In 2020, the income of the richest 20% of the population was almost 8 times higher than that of the poorest 20%. The share of people at risk of poverty or social exclusion stood at 33.6% in 2020, among the highest in the EU. The rate is even higher for children (36.2%), older people (65+, 49.5%), persons with disabilities (52.3%) and Roma (79.4% in 2019). 14.4% of the Bulgarian population spent 40% or more of their household income on housing (i.e. experienced housing cost overburden), compared to on average 10% of the population in the EU. Bulgaria records one of the lowest impact of social transfers (other than pensions) on poverty reduction in the EU (20.4% in 2020), well below the EU average (32.7%). Gaps persist in terms of access to social protection, notably for self-employed and

non-standard workers. In addition, the healthcare system continues to face challenges concerning accessibility, effectiveness and resilience. Access to formal long-term care services is also limited and the system is severely under-funded. The coverage of home care for older people is one of the lowest in the EU (11.6% versus 28.6% in the EU in 2019) and unmet needs

for medical care for this age cohort are significantly higher than the EU average (67.5% versus 46.5% in the EU in 2019).

Low levels of basic and digital skills and low adult participation in learning pose important challenges to Bulgaria, also in view of adverse demographic trends and accompanying the fair green and digital transitions. The participation rate of children below 3 years in formal childcare stood at 15% in 2020, well below the EU average (32.3%). The early school leaving rate stood at 12.8% in 2020, above the EU average (9.9%). The challenge is particularly acute in certain regions and among disadvantaged groups, especially Roma. Only 29% of the population (16-74) and 57% of young Bulgarians (16-19) report basic or above basic levels of digital skills, compared to 56% and 82% respectively in the EU. Adult participation in learning (25-64) was well below the EU average in 2020 (1.6% versus 9.2%).

The Plan includes measures fostering the availability of digital infrastructures, access to distance working and the enhancement of digital skills, which are supportive of the digital as well as of the green transition. The measures included under the Plan cover the large-scale deployment of digital infrastructure, the digitalization of administrative services, as well as revisions to the regulation concerning distance working. The plan also promotes skills relevance and adult learning, with a focus on digital skills. This encompasses changes to the regulatory frameworks for higher and vocational education and training and the development of an online platform for adult learning linked to the public employment services. Relevant measures in the field of education and training also include the enhancement of the relevance of higher education with the aim of addressing labour market shortages and promoting research, with a view to move forward the digital and green transitions. Together with the accompanying reforms, the investments aim to enhance a favourable investment environment and the skills of the Bulgarian population. ESF+ interventions will also focus on strengthening the quality and inclusiveness of education and trainings as well as access to employment, upskilling and reskilling measures. The synergies between the Recovery and Resilience Facility and other EU funds will help Bulgaria in contributing to reaching the 2030 EU headline target on skills.

The Plan is expected to improve access to education, adult learning and healthcare, and to promote social inclusion. Improved access to education will result from investments in education infrastructures, increased options for learning, including online classes, and the compulsory inclusion of 4-years-old in the education system, with implications for the labour market participation of women. On healthcare, broader access is expected to be achieved via the construction of outpatient care units, the enhancement of the provision of telemedicine services, the establishment of an air ambulance system, as well as through measures addressing shortages of healthcare professionals, including their unbalanced geographical distribution. As part of the Plan, Bulgaria plans to reform minimum income support, thus strengthening social safety nets, which, in combination with more effective activation, contribute to the efforts targeting the achievement of the 2030 EU headline target on poverty reduction. The figures of the Social

Scoreboard also point at the need for strengthening the provision of more tailored employment and social services, particularly for vulnerable and under-represented groups (e.g. persons with disabilities and Roma). To foster social inclusion, the Plan also includes measures to improve the provision and integration of employment and social services and to modernize long-term care, with a focus on people with disabilities and older people. Bulgaria will also invest, in the context of other EU funds, notably ESF and ERDF, in actions to improve the capacity and effectiveness of public employment services and better social services.

Reducing vulnerability and increasing resilience

The Plan aims to address relevant Rule of Law concerns. The Plan puts forward an ambitious reform agenda to improve the functioning of the judiciary system and the anti-corruption bodies. It also envisages reforms and investments in anti-money laundering, public procurement, whistleblower protection, regulation of lobbying, e-government and integrity of public servants. These measures are expected to strengthen the fight against corruption and organised crime and improve the business environment and national security. They are also set to boost the public trust in public systems and institutions, which is essential for the country's capacity to cope with various challenges.

The Plan tackles the vulnerabilities related to the green transition and environment protection and improves environmental resilience. Bulgaria commits to a law/strategy for coal phase-out, accompanied by fast deployment of renewable energy sources. Investments in energy renovation of buildings and renewables are expected to reduce energy needs by at least 30%. Apart from addressing the environmental vulnerability, these measures, combined with reforms to cope with the energy poverty, also contribute to the economic and social resilience of the economy by curbing dependence on energy imports and reducing energy costs for businesses, households and administration. Another green transition challenge that is addressed by the Plan is the issue of sustainable mobility. The high carbon intensity of transport in Bulgaria is tackled by investment in electric rolling stock, expansion of the Sofia metro and promotion of electric car mobility with building of 10 000 charging stations. Other vulnerabilities linked to the sustainable use of resources, such as water and waste management, circular economy, biodiversity and sustainable agriculture are partially addressed by a mix of investments and reforms in these areas.

Bulgaria aims to address challenges associated with the various aspects of digital transformation via a comprehensive package of measures. Investments in the broadband coverage in areas that are lagging behind aims at reducing the existing digital divide and hence the vulnerability of uneven territorial division. The Plan also emphasizes upgrading the digital skills at school and in adult learning and includes measures to support businesses in adapting their operations to the digital environment. These measures not only reduce key digital vulnerabilities, but also increase the resilience of the economy as a whole. With respect to public services and

other key sectors, an ambitious upgrade to the current level of digitization is envisaged, e.g. e-government, interoperability of key registers, digitization of Post Offices, e-justice, digitization of healthcare, employment and social protection services, energy and transport services, construction sector and agriculture. These measures bear the potential to reduce costs, boost quality and timeliness of services and improve transparency and competition. The overarching priority of cybersecurity is also present in many of the measures mentioned above, which contributes to strengthening the digital resilience in these areas.

Some of the planned reforms and investments in the areas of education, training and skills are expected to improve resilience by improving the labour market relevance of skills. The Plan includes a comprehensive reform in the education and training systems, encompassing vocational education, and an investment in a platform to promote up- and re-skilling of the Bulgarian population, which is expected to contribute to the acquisition of relevant skills, including digital, of the labour force. These measures, together with a reform of the research and innovation ecosystem, are expected to strengthen skills for the labour market and foster productivity, which should have a lasting impact on the resilience of Bulgaria's labour market.

Improved access to health and social services, and improved social protection are also expected to increase overall resilience. The reforms and investments in healthcare are expected to strengthen the effectiveness and accessibility of the healthcare sector by focusing on the unequal distribution of access to healthcare across the territory. This includes an investment in outpatient units and a reform targeting the shortages of healthcare professionals in underservices areas of the country. In addition, the Plan includes a reform of social services, including the long-term care, and of the minimum income scheme, which are expected to improve the inclusiveness, adequacy and effectiveness of the social protection system in Bulgaria.

Cohesion and convergence

Different components of the Plan intend to reduce or address to a certain extent the social, economic and territorial disparities across the regions in Bulgaria. Social aspects of these disparities are intertwined mainly with component 11 - Social inclusion and component 12 - Healthcare of the Plan. Bulgaria faces very high levels of income inequality and risk of poverty or social exclusion, which is even higher for children, older people, persons with disabilities and Roma. At the same time, access to social protection is limited and the healthcare system faces challenges concerning accessibility, effectiveness and resilience. Social inclusion investment and reforms focus on improving social protection and service provision, including a reform of the minimum income scheme. However, further efforts are needed to further decrease the country's consistently high poverty rates. Further strengthening social safety nets can contribute to reaching the 2030 EU target on poverty reduction.

Cohesion-oriented investments and reforms are present in several sections of the Bulgarian Plan. Component 1 – Education and skills has a territorial dimension in terms of modernization of educational institutions and the establishment of centres for personal development of youth. Component 3 – Smart Industry anticipates investments in different regions of the country. Component 4 – Low-carbon economy has a strong territorial approach in terms of the building stock supported when pursuing energy efficiency, but also in investments in infrastructure. The Plan is expected to support the sustainable renovation of residential buildings across the country and, therefore, also outside of large cities. This effort should contribute to increasing the prospect of regional employment in the construction sector in the different regions. While Bulgaria is the most energy intensive economy in the EU and its CO₂ emissions in comparison to GDP remain the highest in Europe, the concentration of coal-fired plants justifies locally targeted measures to support regions with the highest number of people affected by the climate transition. Components 7 and 8 envisage relevant territorial and local interventions in terms of digital and transport connectivity. Improving digital connectivity, via the deployment of broadband and ensuring access to services in remote areas, has a significant impact in terms of territorial cohesion. The transport component covers several areas of the country, particularly in the northern, central and western regions, in line with the strategic importance of having a better connected country and correcting the current distort in favour of Southern regions and particularly the capital region. On the other hand, a key objective of digital connectivity is to address territorial imbalances related to the broadband penetration. Moreover, specific investments are planned to cover smaller agglomerations across the country (in component 9 – Local development) and in rural areas and Natura 2000 protected sites, through the biodiversity and sustainable agriculture components. Component 10 on business environment includes measures on digitalisation of the judiciary aiming to enable remote court hearings and the electronic submission of documents. Component 12 –Healthcare envisions the set-up of outpatient clinics in remote areas and the establishment of an air ambulance system, thus improving healthcare coverage across the territory.

The Bulgarian Plan includes a package of reforms and investments to improve productivity. Several components target some of the root causes that have contributed to Bulgaria's low competitiveness, which hinders the convergence path towards the EU average in terms of GDP per capita. In particular, components on education and skills, R&I, smart industry, sustainable transport and business environment and the investments and reforms planned in the low-carbon economy and digital components could contribute to boosting productivity and achieving the objectives of the climate and digital transition. Yet, investments in key assets such as transport infrastructure and human capital are still lacking in a large part of the country, contributing to the low innovation performance. The ICT uptake is low, and disparities are also driven by gaps in labour productivity, demographics and education levels. Measures in these components, while going in the right direction, may need to be complemented by reforms and investments that further enhance labour skills, promote innovation and strengthen public administration and institutional capacity.

Taking into consideration all reforms and investments envisaged by Bulgaria, its Plan is expected to have a high impact on strengthening the growth potential, job creation, and economic, social and institutional resilience of the Member State, on contributing to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and on mitigating the economic and social impact of the COVID-19 crisis, thereby enhancing the economic, social and territorial cohesion and convergence within the Union. This would warrant a rating of A under the assessment criterion 2.3 of Annex V to the RRF Regulation.

4.4. The principle of ‘do no significant harm’

The RRF Regulation provides that no measure included in the Plan should lead to significant harm to any of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation¹⁴. In line with the RRF Regulation and the Technical Guidance on the Application of ‘do no significant harm’ under the RRF Regulation (2021/C58/01; ‘DNSH Technical Guidance’), Member States provide a ‘do no significant harm’ (DNSH) assessment, on which basis the Commission assesses whether each and every measure (i.e. each reform and each investment) included in the plans complies with the DNSH principle. Compliance with the DNSH principle is a necessary condition for the Commission to positively assess the Plan. Bulgaria has included a satisfactory DNSH assessment for each measure in its Plan and has provided more detail, when relevant, in accordance with the template provided by the Commission, and in line with the DNSH Technical Guidance. The Commission has assessed whether and how each measure in Bulgaria’s Plan complies with the DNSH principle on that basis.

Each ‘do no significant harm’ assessment follows a two-step approach. The first step assesses whether there is a risk that a measure could do significant harm to one or more of the environmental objectives. In some cases, the assessment concludes that there is no risk of significant harm, in which case the measure is assessed as compliant with this objective of the Regulation. In cases where the analysis identifies a risk to a particular environmental objective, as a second step, a more detailed assessment is performed in which Bulgaria demonstrates the absence of significant harm.

Bulgaria ensures that no significant harm is done to environmental objectives by selecting or designing measures complying with the DNSH principle, and by substantiating DNSH compliance as part of the DNSH assessment. By selecting measures that either contribute substantially to environmental objectives, or have no or an insignificant foreseeable impact on environmental objectives, many measures in Bulgaria’s Plan can be considered DNSH compliant from the outset (e.g. certain measures in education and training, labour market, public administration and justice, and digitalisation). Other measures are designed to ensure compliance with DNSH, including broad support schemes (e.g. Economic Transformation Programme, the

¹⁴ The six environmental objectives comprise (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) the circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems.

programme for industrial parks and the Fund for promoting the technological and ecological transition of agriculture). For measures requiring a ‘substantive DNSH assessment’ according to the DNSH Technical Guidance (e.g. sustainable mobility, energy efficiency and renewable energy investments), Bulgaria has provided evidence and assurances substantiating that the measures do not lead to significant harm to any of the six environmental objectives.

Bulgaria has committed to apply a number of DNSH requirements horizontally across the Plan. For example, in all measures that involve building renovations, compliance with the Energy Performance of Buildings Directives 2010/31/EU and Directive (EU) 2018/844 is required. Vehicles to be procured must comply with high environmental performance standards, e.g. <50 g CO₂ emissions / km in the case of light duty road vehicles. In case of special purpose vehicles, the best-available technology in that vehicle category should be supported (e.g. for helicopters to be purchased under the healthcare component). None of the investments and reforms included in the Plan is expected to affect or have significant effect to the areas and species protected by relevant national legislation, the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas. Where relevant, compliance with Strategic Environmental Assessment/ Environmental Impact Assessments/ Appropriate Assessments will be ensured and the results of relevant assessments will be taken into account.

Where needed, the requirements of the DNSH assessment are enshrined in the design of a measure and specified in a milestone or target of the measure. For instance, the Bulgarian Plan includes some broad measures spanning across sectors and activities, which are designed to be DNSH compliant (in line with Technical Guidance (2021/C58/01)). These include measures such as the Public support programme to develop industrial parks and improve their infrastructure connectivity and the Economic Transformation Programme under the Smart Industry component, as well as the Fund for promoting the technological and ecological transition of agriculture. Provisions and milestones associated to these measures require the introduction of appropriate criteria in the development of the terms of reference of the calls for proposals or calls for interest. The terms of reference should ensure that all projects selected under these calls comply with the ‘do no significant harm’ principle, by preventing activities that could do significant harm to environmental objectives (e.g. activities related to fossil fuels, activities above the ETS benchmarks for free allocation, waste landfills and incinerators, among others) from being selected as part of the calls. For the activities under the Emissions Trading System, where the emission reductions are not substantially lower than the relevant benchmarks, an explanation on why this level of emission reductions cannot be achieved is expected to be provided.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Bulgaria’s Plan is expected to do a significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852 (the principle of ‘do no significant harm’). This would warrant a rating of A under the assessment criterion 2.4 in Annex V to the RRF Regulation.

4.5. Green transition

Climate target

Bulgaria's Plan correctly follows the methodology for climate tracking set out in Annex VI to the RRF Regulation. It identifies intervention fields and corresponding coefficients for the calculation of support to the climate objectives, for most measures. The choice of intervention fields for the climate transition is well justified and reflects the nature, focus, objective or expected outcome of the investments.

It should be noted that:

- the measures of the Plan often consist of several sub-measures – for these measures, the Plan indicates an intervention field for each sub-measure and computes the climate contribution at sub-measure level;
- where relevant, milestones and targets include specifications that ensure that the requirements of an intervention field are met (for instance, where intervention field 025bis – “Energy efficiency renovation of existing housing stock, demonstration projects and supporting measures compliant with energy efficiency criteria” is used, a target specifies that the measure must achieve the conditions of the intervention field i.e. on average, at least a medium-depth level renovation as defined in the Commission Recommendation on Building Renovation (EU) 2019/786;

Measures supporting climate change objectives in the Plan account for EUR 3 696 million, which represent 58.9% of the Plan's total allocation of EUR 6.27 billion. Of the twelve components in the Plan, ten components include expenditure that contributes to climate objectives, most notably the low-carbon economy, sustainable transport and smart industry. With a total of EUR 2612.5 million, the largest climate contribution of the Plan results from the component low-carbon economy.

Table 7: Contribution to climate objectives per component

Component	Total cost (EUR million)	Contribution to climate objectives (EUR million)	Share of contribution to climate objectives
1. Education and skills	733.53	110.92	15.1%
2. Research and innovation	211.28	8.18	3.9%
3. Smart industry	800.67	181.07	22.6%
4. Low-carbon economy	2612.51	2612.51	100%
5. Biodiversity	47.53	19.01	40%
6. Sustainable Agriculture	233.83	85.45	36.5%
7. Digital Connectivity	385.22	4.09	1.1%
8. Sustainable Transport	665.79	552.18	82.9%
9. Local Development	211.11	23.09	10.9%
10. Business Environment	188.08	0	0%
11. Social Inclusion	440.38	96.76	22%
12. Healthcare	367.96	0	0%

Green transition

The measures in Bulgaria's Plan are expected to effectively contribute to the green transition, and addressing the challenges resulting therefrom. The Plan supports Bulgaria's decarbonisation and energy transition objectives, meeting the country-specific recommendation in relation to contributing to "a progressive decarbonisation of the economy".

"Energy and climate investments and reforms envisaged in the Plan are consistent with the National Energy and Climate Plan (NECP). These include a large package of reforms, notably in relation to decarbonisation of the power sector, setting out a date for the coal phase-out and aiming to achieve a 40% reduction in CO₂ emissions compared to 2019, including a regulatory cap kicking in 2026 to ensure that the achieved reductions are long lasting. The reform package also includes concrete measures to speed up the deployment of RES (e.g. investments to modernise the grid and legislative changes to shorten permitting procedures and ease connection) and commitments to more than tripling RES installed capacity within four years. Finally, the Plan includes market liberalization of the wholesale and retail electricity markets and governance reforms to ensure a level-playing field and transparency. Finally, the plan includes substantial investments in energy efficiency (over 1 billion EUR) and matching reforms to remove bottlenecks (e.g. establishment of a decarbonisation fund and amendments to the Condominium Act) In terms of investments, the Plan arrives at a high climate tracking contribution of 58.9.

In its self-assessment on the Do No Significant Harm principle, Bulgaria has systematically provided reassurance that none of the proposed measures would cause significant harm to the **protection and restoration of biodiversity** and ecosystems. More importantly, the Plan contains a dedicated component on biodiversity protection, with dedicated reforms and investments which amount to EUR 45.53 million.

Renewable energy

The Plan includes reforms and investments to support the deployment of renewable electricity generation. By 2026, the following should be commissioned and connected to the grid: (i) 3.5GW of wind or solar collocated with storage; (ii) 10 MW of geothermal electricity generation capacity by 2026; and (iii) 500MW large-scale electricity storage with 6,000MWh discharge over 12h by 2026. The total planned resource is EUR 342 million for RES and EUR 799 million for electricity storage with an implementation period of 2022-2026.

The Plan also includes a dedicated measure to support the development of pilot projects enabling the **introduction of green hydrogen and biogas for industrial applications**, as well as for their future use in transport and for the production of electricity and heat. It is expected that 55MW green hydrogen and 7MW biogas will be commissioned. The total planned resource is EUR 35 million with an implementation period of 2022-2026.

Moreover, the Plan includes a reform aimed at reducing the administrative burden for investments from renewable sources concerning installation, connection and operation. The

reform is expected to (i) simplify licensing and permitting procedures for renewables (such as solar and onshore wind), including energy storage facilities, (ii) enable dedicated ‘go-to’ areas where onshore wind parks would be compliant with environmental legislation; (iii) simplify the procedure for renewables installations for own use up to 1 MW (e.g. rooftop PV installations for households and SMEs). The Plan also includes a reform aimed at unleashing the potential of hydrogen technologies and hydrogen production and supply.

Electricity network infrastructure

The Bulgarian Plan includes an investment in electricity network infrastructure. The aim of this investment is to modernise the electricity grid through the introduction of state-of-the-art digital tools and methods to provide the necessary tools for the management of the electricity system and to increase its flexibility to allow for increased penetration of electricity from renewable sources. Following its completion, a further capacity of 4,500 MW renewable energy could be integrated into the electricity system by Q4 2025. In addition, 1.8 GW at the borders with Romania and Greece would increase the net available interconnection capacity. The total planned resource is EUR 190 million with an implementation period of 2022-2025. As of last year, the Bulgarian day-ahead electricity market is coupled with Greece and Romania. The intraday electricity market coupling with Greece should be completed and operational by Q4 2022.

Energy efficiency

The Plan includes significant investment in the energy efficiency of buildings. The investments will finance energy renovations of residential and public/private buildings, street lightning and renewables for households not connected to natural gas and/or heat transmission networks. The measures are expected to deliver at least 30% reduction of energy needs and lead to the primary energy savings of 1.1 TWh/year. The total planned resource is EUR 924 million with an implementation period of 2022-2025.

The Plan also features a reform to facilitate investments in energy efficiency renovations in residential buildings. The reform aims at tackling barriers to energy efficiency investments by facilitating the decision-making by owners of multi-apartment buildings. Moreover, the Plan includes a reform which consists in setting up a one-stop shop for renovations that is expected to reduce administrative burden linked to the renovation process by assisting citizens and businesses with information, technical assistance and advice different issues related to energy efficiency improvement projects. In addition, the Plan is expected to contribute to tackling energy poverty and protecting vulnerable consumers by introducing in the Energy Act and secondary legislation a definition of “energy poverty” and criteria for identifying households in energy poverty and vulnerable consumers and includes a reform aimed at boosting energy efficiency and renewable energy projects through the energy bills.

Sustainable transport

The Plan includes a sizeable allocation to sustainable mobility (EUR 665.8 million). The following key measures will be supported: road decarbonisation measures such as the promotion of electric car mobility with construction of 10 000 charging stations, including fast ones, across the country, and new zero-emission and low-emission vehicles, reaching a total of 30 000 by mid 2026; road safety measure to reduce the number of victims of road accidents by 30% from 2019 to 2025 and reduce the number of road safety blackspot by 50% over the same period, new electric rolling stock for sub-urban and inter-regional rail transport; the introduction of a single ticket for passengers; the construction of three kilometers of a new section of the Sofia metro; the digitalisation of rail transport with the deployment of the European Rail Traffic Management System; a new intermodal terminal in Ruse; sustainable urban mobility pilot scheme with purchase of zero-emission public transport vehicles and charging station infrastructure.

Water management

Improving water management is one of the main environmental challenges that Bulgaria is facing. The Plan addresses existing investment needs in the component 9 on local development. The component includes a set of interrelated and reinforcing investments enhanced by a water sector reform, all of which are aimed at modernising water resource management and making it more sustainable. The water sector reform is expected to optimise the regulatory framework for water supply and sewerage services. It consists of the adoption of a new law, the Water Supply and Sewerage Act, which aims to provide the conditions for consolidation in the provision of water supply and sewerage services and introduce uniform conditions for service quality and efficiency criteria to be met by the water supply and sewerage operators. The new legislation is expected to refine the tariff setting mechanisms, ensuring cost-based pricing for the use of the systems and the consumed services while also ensuring financial sustainability of the operators. The water management investments included in the Plan consist of the construction, reconstruction and modernisation of water supply and sewerage systems, and drinking and waste water treatment plants, as well as the digitalization of water management and improving the control of water use.

Biodiversity

The main risks to biodiversity in Bulgaria relate to the loss of habitats and the degradation of ecosystems. This is a result of urban and infrastructure development, unsustainable agriculture and the exploitation of species of economic importance. The Plan includes a dedicated component aiming at protecting and restoring ecosystems and natural habitats and species of European and national importance. The reforms and investments in this component are expected to contribute to building effective Natura 2000 management structures in the country, as well as to restoring climate-related ecosystems and protecting biodiversity.

Sustainable agriculture

The Plan includes measures that aim at enhancing the sustainable management and competitiveness of the agricultural sector in the context of the green transition. The plan

includes a reform for adopting a National Action Programme, which is expected to set out a framework for the management and protection of the environment and natural resources in the field of agriculture. The plan also includes dedicated investments that consist of setting up a Fund for promoting the technological and ecological transition of the Bulgarian agricultural sector, as well as a digitalisation measure that is expected to facilitate the automated data exchange between the administration and farmers.

Taking into consideration the assessment of all the measures envisaged, the Recovery and Resilience Plan is expected, to a large extent, to make a significant contribution to the green transition or to address the challenges resulting from it and ensures that at least 37% of its total allocation contribute to the climate target. This would warrant a rating of A under criterion 2.5 of Annex V to the RRF Regulation.

4.6. Digital transition

Digital tagging

Bulgaria correctly follows the methodology for digital tagging in Annex VII to the RRF Regulation by identifying intervention fields and corresponding coefficients to calculate support to the digital objectives for each investment measure. It should be noted that:

- Bulgaria has split the measures into sub-measures based on their costs whenever possible in order to ensure an accurate selection of the intervention fields and to avoid any overestimations of the contributions of certain measures to the digital objectives.
- In a limited number of cases, Bulgaria has indicated for the same measure two different intervention fields for the purpose of climate and digital tagging respectively. This has been done when the measure could not be split into different sub-parts, when no single intervention field that reflects the contribution to both climate and digital objectives could be applied or when the measure was considered as fully or partly contributing to both climate and digital objectives.
- The Plan does not propose any increased digital coefficients for any measure.
- The choice of intervention fields for the digital transformation is well justified and reflects the nature, focus, objective or expected outcome of the investments.

Overall, based on the methodology, the Plan contributes to digital objectives for 25.8% of Bulgaria's allocation (this amounts to EUR 1.62 billion) and the digital target of 20% is, therefore, considered to have been met. The most significant contributions to the digital target are included in component 7 (Digital Connectivity) and component 10 (Business Environment). In particular, in component 7, the Plan allocates EUR 371.6 million as digital contribution, while component 10, focused on digital transformation of the public sector allocates EUR 167.89 million. Additional significant contributions are made by component 1 (Education and Skills), earmarking EUR 299.26 million for the support of the development of digital skills as well as by component 4 (Low-carbon economy), which dedicates EUR 395.29 million to the digital transformation of systems and processes of the Electricity System Operator and electricity storage.

Other components also contribute to the digitalisation of public services such as Local Development (EUR 57.73 million), Sustainable Agriculture (EUR 10.2 million), Social Inclusion (EUR 43.7 million) and Healthcare (EUR 36.47 million). Component 2 (Research and Innovation) contributes to innovation supporting the digital transition (EUR 15.69 million) and component 3 (Smart Industry) contributes to the digitalisation of businesses, especially SMEs (EUR 15.65 million).

Table 8: Contribution to digital objectives per relevant component

Component	Total cost (EUR million)	Contribution to digital objectives (EUR million)	Share of contribution to digital objectives
1. Education and skills	733.5	299.26	40.8%
2. Research and innovation	211.28	15.69	7.4%
3. Smart industry	800.67	15.65	2.0%
4. Low-carbon economy	2612.51	395.29	15.1%
5. Biodiversity	47.53	0	0%
6. Sustainable Agriculture	233.83	10.2	4.4%
7. Digital Connectivity	385.22	371.60	96.5%
8. Sustainable Transport	665.79	202.61	30.4%
9. Local Development	211.11	57.73	27.3
10. Business Environment	188.08	167.89	89.3%
11. Social Inclusion	440.38	43.7	9.9%
12. Healthcare	367.96	36.47	9.9%
Total	6 897.90	1 616.08	25.8%

As shown in Table 8, nearly all components have a digital contribution that has been tagged accordingly to the methodology set out in Annex VII to the RRF Regulation. This reflects a broad cross-cutting approach followed by the Plan in which digital related investments are included in the majority of the targeted policy areas and in eleven components.

Digital transition

Bulgaria's Plan puts a strong emphasis on the digital transition and addresses challenges resulting from it across all sectors. The measures of the Plan cover six of the seven priority areas identified in the Annex VII to the RRF Regulation: connectivity, human capital, digital public services, digitalisation of businesses, investment in digital capacities, deployment of advanced technologies and digital-related investment in R&D. The Plan also tackles the four strategic priorities identified at EU level and reaffirmed in the communication on Europe's Digital

Decade¹⁵: digital transformation of businesses, skills, digitalisation of public services, and infrastructures.

Connectivity

The reforms and investments in component 7 (Digital Connectivity) are expected to increase national broadband coverage with very high capacity networks (VHCN) in areas where there is insufficient commercial interest. The current low digital connectivity hinders the development of Bulgaria's digital economy and underpins the digital divide between urban and rural areas. The reforms are expected to reduce the administrative burden and streamline procedures and fees associated with 5G deployment. In addition, the investment of 269 million aims to upgrade and extend the coverage of the State network to all municipal centers and provide coverage with VHCNs in areas where this infrastructure is unlikely to be developed soon due to the lack of market interest ("white areas"). The measures also foresee granting effective wholesale access to the upgraded or newly constructed network to providers of services of general interest and telecom operators, thus maximising the impact and coverage of the investments. In addition, to stimulate 5G development, the fiber backhaul will also be open to mobile operators. The measures included in the Plan therefore contribute to reducing the urban rural divide and to creating prerequisites for equal access to high speed connectivity services for all citizens. In addition, the Plan envisages the provision of access to access points for ultra-fast connection to the Bulgarian Academy of Science (BAS), the National Supercomputing Center in Sofia High Tech Park and universities and scientific institutes, enabling them to participate in European research networks such as GEANT. The investment in connectivity thus establishes the necessary connectivity infrastructure in order to foster research and innovation in Bulgaria, thereby supporting other prominent objectives of the Plan.

E-government and digital public services

The Plan includes a large number of measures in several components aimed at the digitalisation of the public administration, including the judiciary. These measures are expected to contribute to reducing the administrative burden on citizens and businesses, strengthening interoperability, and increasing the quality and effectiveness of public sector services. The wide-ranging efficiency gains resulting from the digitalisation of the public administration, including the judiciary, are expected to have a lasting impact beyond the lifetime of the Recovery and Resilience Facility.

The Plan is expected to contribute to the digitalisation of the public administration and address the related challenges such as fragmentation, lack of interoperability and administrative barriers. The digitalisation of the public administration includes reforms and investments which support the consolidation of public information resources, systems and services as well as the availability of data and the possibility to use it more effectively. Key reforms and

¹⁵ COM(2021) 118 - 2030 Digital Compass: the European way for the Digital Decade, 9 March 2021

investments include the digitalisation of registry data in the public administration and e-certification based on information in registries. These reforms and investments are expected to facilitate the intra-registries exchange and interoperability as well as the quality of data in the public sector and the related administrative services to citizens and businesses. In addition, the establishment of the Spatial monitoring, control and management center through upgrading the Aerospace Monitoring Centre is expected to contribute to generating and making available a broad range of data from more satellites and sensors, as well as from unmanned aircraft systems. The investment in the digitalisation and modernisation of the Bulgarian Post Office is expected to enable the provision of e-government services in remote and rural areas (where the central or municipal authorities do not have any offices), services for capturing biometric data needed for Bulgarian ID documents (with biometric chips) and other complex administrative services in such areas. This investment thus contributes to improving access to administrative services and to enhancing the social and territorial cohesion within the whole territory of Bulgaria.

The Plan also includes measures promoting the digital transformation of the construction sector in Bulgaria, including a reform covering the adoption of a long-term strategy to introduce the Building Information Modelling (BIM) into the design, execution and maintenance of construction works and a related investment that will support a pilot phase for the introduction of BIM in Bulgaria. Moreover, an investment included in the Plan supports the development of a Unified Information System for Spatial Planning, Investment Design and Building Authorisation. This investment aims to reduce the administrative burden of citizens and businesses in relation to construction by setting up a platform for the provision of electronic administrative planning services and the authorisation of construction.

The digitalisation of justice forms part of the efforts to digitalise the public sector. The key measures in this respect include upgrading the Unified Courts Information System, the digitalisation of key judicial processes in the administrative justice system, and transformation of the existing information and communication infrastructure at the Prosecutor's Office of the Republic of Bulgaria. The investments are accompanied by reforms aimed at facilitating access to justice in civil, criminal, and administrative proceedings. The reforms are expected to enable the electronic submission of documents, preparation of court decisions as electronic documents signed by a qualified electronic signature, exercise of procedural rights and performing procedural actions in an electronic form, as well as holding court sessions in a remote and electronic environment. The reforms and investments supporting the digitalisation of justice are expected to enable faster, more efficient and accessible administration of justice.

The Plan also supports the digitalisation of healthcare. The enhancement of e-health and digital innovation in healthcare in Bulgaria is supported by the completion of the implementation of the National Health Information System ("NHIS") and by the development of a platform for medical diagnostics. The NHIS is expected to serve as an integrated digital environment for the collection and exchange of medical information (e.g. electronic records, referrals, prescriptions etc.). The investment and accompanying reforms aim to eliminate the fragmentation, increase transparency

as well as quality and safety of medical care. The NHIS is to be connected to a pilot national Digital Medical Diagnostic Platform that will enable the generation of a database of digital images and their secondary processing through validated machine learning algorithms. The investments in a pilot project for telemedicine services in the offices of the Bulgarian Post in rural and remote areas should further contribute to the provision of telemedicine services also in underserved areas of the country. The Plan further envisages reforms consisting in the update of the legal framework in the country for e-Health (e.g. telemedicine, tele-diagnostics and tele-monitoring) and the adoption of the National Strategy for e-Health and Digitalisation of the Health System 2021-2030, which are expected to increase the efficiency and coverage of eHealth in Bulgaria.

In addition, the Plan envisages the digitalisation of the national system 112 and extending the national coverage of the TETRA system. The TETRA system of the Ministry of Interior is expected to be used as a unified radio-communication system to provide a communication environment for management, interaction and coordination in the Ministry of Interior, as well as other government structures responsible for crisis prevention accidents, disasters and national security issues. The reforms and the corresponding investments are expected to contribute to enhancing the resilience and capacities to adequately respond to crisis situations.

The component on social inclusion includes an investment in the digitalisation of employment and social services. This is expected to allow for a more flexible use of data (e.g. based on AI technologies) and more effective provision of services, including services to the vulnerable and disadvantaged groups. The digitalisation of the social services includes an investment in the construction of a data centre and the implementation of an IT system to manage information on the services provided by the Social Assistance Agency across the territory of the country. The digitalisation of employment and social assistance services is expected to contribute to increasing the efficiency and quality of the public services, reducing administrative barriers and promoting a user-centric approach through a more effective use of data. The component also covers the digitisation of collections of museums, libraries, and archives, with the objective of improving accessibility and fostering preservation of such resources.

The Plan significantly contributes to the digitalisation of energy and transport systems and transport. In particular, the Plan envisages investments in smart energy systems and smart meters. The investment includes a comprehensive programme for the overall digital transformation of systems and processes of the Electricity System Operator covering the automated management of substations, upgrade of the supervisory control and data acquisition system (SCADA) with the introduction of remote back-up, extension and upgrade of telecommunication network, including a comprehensive cybersecurity system and upgrade of the electricity markets administration systems. The aim of this investment is to increase the penetration of renewable energy sources, to increase flexibility in the operational management and monitoring of the electricity system and the net cross-border transmission capacity at borders with Member States (i.e. Romania and Greece). Moreover, the Plan includes a significant investment in electricity storage. The project leverages the complex implementation of the smart grids concept, ensuring a high degree of observability,

accuracy of operational planning, maneuverability and speed of the electricity system, including the prevention and / or management of accidents. Battery energy storage systems are expected to provide viable solutions for improving efficiency and reliability in smart grids.

The digitalisation of railways also features in the Plan. The Plan includes the upgrade to the European Rail Traffic Management System (ERTMS), enhancing the efficiency and safety of railways and the interoperability with other European rail networks. It also includes a pilot scheme to support sustainable urban mobility through the development of Intelligent Transport Systems (ITS), and integrated digital solutions to improve the efficiency and effectiveness of public transport as well as infrastructure for safe urban mobility. The measures included in the Plan are therefore expected to contribute to the twin transition and facilitate the decarbonisation of transport and energy systems.

Human capital

One of the priorities of the Plan is the improvement of digital skills with significant investments in the component on education and skills. The investment in digital skills is focused on adapting the skill set of the workforce to new labour market needs and promoting wider uptake of digital technologies in socio-economic processes and services. The measures include the setting up of a national online platform for adult learning and a network of digital clubs throughout the country, which enables access to the platform free of charge. In addition, training for the acquisition of basic and medium-level digital skills should be offered by certified organization based on curricula consistent with the European Digital Competence Framework. The measures have a strong socio-economic focus as they aim to increase the level of digital skills also of unemployed people and are inclusive as people without access to internet will be provided with the opportunity to complete trainings in the offices of the Employment Service. As regards education of pupils, another key investment to improve digital skills is the setting up of STEM centers and STEM laboratories in schools, including high-tech classrooms, which aim to increase digital literacy and promote interest and skills in subjects related to natural and engineering sciences, artificial intelligence, robotics, IT, natural sciences etc. A national STEM center acts as a central unit and develops the content, tools and methodologies to support the trainings of both teachers and students.

Investment in digital capabilities and deployment of advanced technologies

The Plan also includes measures to support businesses in adapting their operations to the digital environment. Measures include a voucher scheme for the digitalisation of SMEs, supporting activities such as digital marketing services, web-based ICT services for platforms, software solutions for the optimization of management, production and logistic processes. Another important focus of the investment is the increased cybersecurity capabilities in SMEs. The component on research and innovation also supports the technology transfer and cooperation between enterprises, research centers and higher education sector and the digitalisation of

businesses. The Plan also includes investments in the deployment of advanced technologies, such as quantum technologies.

Taking into consideration the assessment of all the measures envisaged, the Plan is expected, to a large extent, to make a significant contribution to the digital transition or to address the challenges resulting from it and ensures that at least 20% of its total allocation contribute to support digital objectives. This would warrant a rating of A under criterion 2.6 of Annex V to the RRF Regulation.

4.7. Lasting impact of the plan

Structural change in administration and institutions

The Bulgarian Plan contains measures to strengthen the administrative capacity of public institutions, notably in the judiciary. The business environment component contains a number of key reforms designed to improve the functioning of the judiciary system, e.g. through measures to ensure the accountability and criminal liability of the Prosecutor General, to enhance the capacity of the Inspectorate with the Supreme Judicial Council to fight corruption in the judiciary, to ensure more efficient proceedings for insolvency and other administrative cases, and measures fostering the wide use of mediation, and an improved access to justice. Apart from the judicial reform, improvements in the capacity of anti-corruption bodies, the integrity of public servants and the efficiency of anti-money laundering supervisory authorities feature in the Plan. In addition, the strengthened administrative capacity in the social support system should lead to a better quality of social services.

The investments in key areas of the Plan are complemented with measures to strengthen the quality of public services. The Plan aims to reduce barriers to business activity through the introduction of one-stop shops and by increasing the administrative capacity for strategic planning as well as transparency through the establishment of new institutions. The accompanying administrative reforms in the areas of research and innovation include the adoption of a law on research and innovation (Research and Innovation Act). The low carbon component provides for the creation of one-stop shops for energy renewal, establishment of a Green Energy Transition Commission and a regulatory mechanism to ensure that CO₂ reductions in the power sector, as achieved under the Plan, are maintained beyond 2026 and until the date of completion of the coal phase out. The planned upgrade of the Single Information Points aims to facilitate the services to the operators of electronic communications networks.

Structural change in policies

The policy changes in the business environment component are aimed at strengthening the growth potential and the resilience of the Bulgarian economy by addressing the existing barriers and inefficiencies. The ambitious reforms and investments in public procurement, whistle-blower protection, regulation of lobbying, e-government, digitalisation of the construction

sector, and governance of state-owned enterprises would improve transparency and level the playing field for businesses.

The investments in smart industry, industrial parks, green and digital transition, sustainable agriculture, transport, and water infrastructure are supported by policies to stimulate business activity and investment. The reforms include more favourable conditions for the development of industrial ecosystems, energy market liberalisation, lower barriers for network operators, better regulation of public transport services, improved territorial planning, enhanced road safety management, promotion of electro mobility and strengthened regulatory framework in the water supply and sewerage service.

The reforms and investment in education, healthcare and social protection are addressing long-standing problems in these systems. This includes underfunding, an outdated material base and inefficiencies that have led to inadequate quality of the provided services. Apart from the investments in the modernisation of buildings and equipment and in the digitalisation of public and private entities, the Bulgarian Plan envisages ambitious reforms. In education, the reforms in the Plan aim to foster the acquisition of necessary skills by updating the curricula, prioritizing STEM profiles in admission plans and fostering stakeholders' involvement; to achieve more flexibility, digitalisation and inclusiveness in the educational process by enabling distance and hybrid learning, the inclusion of four year-old children in preschool education and opening and adapting vocational training for school dropouts; and to create proper incentives and and standardisation in higher education via introducing a financial model that rewards quality of education and research and to strengthen prevention of plagiarism. In healthcare, the policy is oriented towards improving the territorial balance of healthcare services, addressing the specific challenges in the different parts of the country, tackling setbacks in prevention and treatment of socially significant diseases, and ensuring adequate funding and better access to outpatient care and eHealth. In social services, the expansion of social support and the increased coverage and adequacy level of minimum income is expected to strengthen the social safety net, thus bolstering the resilience of the system to adverse developments.

Lasting impact

The measures in Bulgaria's Plan address the root causes of critical inefficiencies and bottlenecks. The reform in the judiciary and the anti-corruption bodies is far-reaching and is expected to improve the checks and balances and administrative capacity in these systems. In the climate change area, a law/strategy for coal phase-out is accompanied by the fast deployment of RES and the ambitious plan for energy renovation of buildings, in order to achieve sustainable decarbonisation of the economy. Investments in the electric public transport and promotion of the electric car mobility contribute to decreasing the substantial carbon footprint of the transport sector in Bulgaria. The digital transformation of the economy is targeted via complementary measures to provide public e-services, support SMEs and upgrade the digital skills of the population. By reforming the education and vocational training systems to ensure a better quality of education,

more relevant skills and better inclusiveness, and by strengthening the employment services, the Plan addresses the key issue of skill shortages and labour market mismatches. The reforms in the healthcare and social services sectors target the long-standing issues of coverage and adequacy of services to improve the health and social status of the population. Overall, having designated strategic bodies and a strengthened implementation and control capacity should ensure the sustainability of these measures. Reforms to improve the research and innovation ecosystem and foster investments in these fields by public research institutions as well as innovative businesses are also expected to contribute to the lasting impact of the plan.

The drafting process of the Bulgarian Plan followed mostly a bottom-up approach that contributed to the comprehensive nature of the measures. The Plan has been discussed by various stakeholders and in the Parliament. The major challenge of decarbonisation is addressed by the Plan, and adequate measures to mitigate the socio-economic impact will need to be devised, including through the Just Transition Fund, taking into account the partnership principle and in consultation with local and regional stakeholders in the coal regions.

Taking into consideration all reforms and investments envisaged by Bulgaria in its recovery and resilience plan, their implementation is expected, to a large extent to bring about a structural change in the administration or in relevant institutions and or in relevant policies and to have a lasting impact. This would warrant a rating of A under criterion 2.7 of Annex V to the RRF Regulation

4.8. Milestones, targets, monitoring and implementation

The plan includes 206 milestones and 140 targets that appropriately reflect the implementation of the measures over the entire life-cycle of the Bulgarian recovery and resilience plan. The achievement of milestones and targets will be verified using a detailed set of indicators, which is sufficiently clear and comprehensive. The milestones and targets are relevant, well-defined, and balanced across the different measures. In the first phase of the plan, milestones are the predominant monitoring device, in the majority of the cases relating to the entry into force of the legal framework or the selection of projects. During the later years, the implementation of the projects is typically monitored using final output targets. The milestones and targets represent the key steps of the measures and appropriately and realistically indicate whether the measures have been implemented. Hence, the proposed milestones and targets can be considered as in line with the long-term objectives of the plan.

The total number of milestones and targets is set at 346, reflecting the large number of measures and sub-measures in the Plan. Where relevant, milestones and targets are specified in such a way that they ensure compliance with the ‘Do no significant harm’ principle and appropriately justify the climate and digital tagging of the measure.

The arrangements proposed by Bulgaria in its Plan are expected to be adequate to ensure effective monitoring and implementation of the recovery and resilience plan, including the envisaged

timetable, milestones and targets, and the related indicators. This would warrant a rating of A the assessment criterion 2.8 of Annex V to the RRF Regulation.

4.9. Costing

Bulgaria has provided individual estimated costs for all the measures in the Plan to which a budget is allocated. Bulgaria has provided generally clear and sufficient information to justify the cost estimates for each measure in the plan that has an associated cost, and where necessary at the sub-investment level. The evidence provided by Bulgaria is sufficient to conclude that the estimated total cost of the plan is reasonable and plausible and in line with the nature and type of the envisaged measures. For the majority of measures, calculations behind the cost estimates are provided, and whenever available, comparative cost data are provided. For certain measures, more details could have been provided to determine how the final budget was computed. For demand-driven measures (such as investments in energy efficiency in buildings, or support programmes for businesses), a reference to the full budgetary execution, and, where appropriate, to the expected number of beneficiaries, have been included, providing further reassurance with regards to the cost estimates. The cost estimates of the Plan have been reviewed by the Bulgarian Executive Agency for European Funds Audit, which stated that the cost estimates are complete, reasonable and plausible within the meaning of the Recovery and Resilience Facility regulation, and they do not have any other source of funding.

Evidence was provided establishing the eligibility of the costs. All costs are incurred after February 2020 and do not substitute recurring national budgetary expenditure, unless in a limited number of duly justified cases in which the Plan includes labour costs for temporarily recruited civil servants whose work is essential to the successful implementation of the measures. Value added tax has been consistently excluded from the calculations behind all investments. For the large majority of measures, cost estimates are detailed and well-substantiated and based on a variety of sources, including previous investments of similar types. Where information on previous similar investments was not available, price quotes and, in a few rare cases, publicly available pricing information was provided. The template tables are duly completed with the necessary costing information on the methodology and are consistent with the project fiches.

Reasonable costs

Cost estimates for most of the measures in the Plan are reasonable. In the majority of cases, the cost estimates are presented clearly and are appropriate for the specific investments. They are clear and understandable, although the level of details provided varies across components and measures. For the large majority of measures, it is clear from the document and its annexes how Bulgaria calculated the amounts estimated. For certain measures, more details on the calculations could have been provided. The underlying assumptions behind the cost estimates are generally sound, although in a limited number of cases they could be justified better or more clearly. On occasions, when deriving costs from similar projects, adjustments made are not fully explained.

Plausible costs

The estimated total costs of the Plan are in line with the nature and the type of the investments envisaged. Bulgaria has provided a wide array of supporting documents as a justification for the cost estimates: studies, reports, and calculation sheets. In most of the cases, Bulgaria has provided information on the cost of similar investments carried out in the past whenever these were available. Where this was not available, as for instance for novel projects, Bulgaria has provided price quotes or pricing information from publicly available sources. The estimated cost of investments included in the plan is in line with similar investments, including those funded by other EU programmes, if available. For certain investments, while costs remain plausible, they are in the high range compared to the costs of similar past investments, but there are also measures for which they are in the low range. Cost estimates are generally plausible, taking into account the limits of an *ex-ante*-based assessment of cost estimates. The output targets provided in the Plan for investment are commensurate with the costing justifications and assumptions provided.

No double Union funding

Bulgaria has provided information on whether parts of the proposed measures under the Plan are covered or planned to be covered by other EU programmes and instruments. In the few cases where similar investment are financed through other EU funds (ERDF, ESF or other), Bulgaria has provided information on the name of the instruments, the amounts covered or expected to be covered, and a clear description of which parts of the measures are expected to be covered. These amounts are clearly identified, and the measures financed through the different funds are in the majority of the cases well defined. In several instances, measures financed under the RRF and other EU programmes and instruments or national funds are complementary, and there are synergies between the different measures. The audit and control system provides sufficient assurance that the same costs will not be financed from different sources (see Section 4.10 *Adequacy of arrangements to avoid double funding from RRF and other EU funds*).

Commensurate and cost-efficient costs

The Plan is expected to effectively help address a significant subset of challenges identified in the country-specific recommendations. As discussed in Sections 4.1 and 4.3, the Plan contains measures that are expected to support economic growth and economic cohesion in an inclusive manner. In particular, this means that the Plan should address the weaknesses of the Bulgarian economy, boosting its growth potential, stimulating job creation, and mitigating the adverse effects of the crisis. Several of these measures are also expected to contribute effectively to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and young people. The control and audit system that will be put in place for RRF-related spending and the public procurement system will further support the objective of cost-efficiency. It is deemed that the costs of the Plan are commensurate to its economic and social impact.

The justification provided by Bulgaria on the amount of the estimated total costs of the Plan is to a medium extent reasonable, plausible, in line with the principle of cost-efficiency and is commensurate to the expected national economic and social impact. Bulgaria provided sufficient information and evidence that the amount of the estimated cost of the reforms and investments of the recovery and resilience plan to be financed under the Facility is not covered by existing or planned Union financing. This would warrant a rating of B under the assessment criterion 2.9 of Annex V of the RRF Regulation.

4.10. Controls and audit

Robustness of internal control system and distribution of roles and responsibilities

The Plan adequately describes the system for the implementation of the Recovery and Resilience Plan in Bulgaria. The structures responsible for the organisation and coordination of the Plan have been designated by a Decision of the Council of Ministers 568, in force since 2nd August 2021.

For each reform or investment there is a responsible body defined in the Plan together with the description of the reform/investment and timeline. For each of the milestone and target there is a verification mechanism described. There is no description of the planned management verifications for the fulfilment of the milestones and targets at the level of each component separately. However, the description at Plan level applies for all individual components.

Adequacy of control systems and other relevant arrangements

The Bulgarian authorities describe in the Plan the measures to be applied to prevent the occurrence of fraud, corruption and conflict of interest. These include: code of ethical conduct of civil servants, signing of the declaration on the civil servants' awareness of the definition of irregularity within the meaning of Regulation No 2988/95, as well as definitions of fraud and corruption; signing of a declaration of absence of conflict of interest; awareness of procedures for reporting alerts and suspicions of fraud, corruption and conflict of interest; signing of declaration of assets and interests; ex-ante checks by the Public Procurement Agency; carrying out of fraud risk assessments by the Monitoring and Reporting Structures and the National Fund Directorate (using the fraud risk self-assessment tool); and training of participants in the process of implementing and monitoring the Plan. It is worth noting that in view of the definition of Article 61 of the Financial Regulation, further measures should be taken to prevent conflict of interest which include, for example, the use of data mining tools for ex-ante checks. However, the specification of measures to combat fraud, corruption, double funding and conflict of interest and arrangements for reporting and correcting serious irregularities shall be included in the Act approving the Management and Control System, which shall be approved and enter into force before the submission of the first payment request. This will be implemented through a dedicated milestone.

For the management and the monitoring of the RRP, the Bulgarian authorities will upgrade the existing information system for management and monitoring of EU funds (UMIS). They have confirmed that the following elements will be filled in the system by the final recipients: contracts concluded with contractors; supporting and payment documents; documents proving performance – certificates, acts, etc.; payment forecasts; documents proving that the stages and objectives have been met. Final recipients are also responsible for record keeping, such as statistics and other data related to financing, as well as records and documents in electronic format for 5 years after payment of the balance. By concluding an operational agreement, each final recipient agrees to collect and enter in the IT system the following data under Article 22 (2) (d) of Regulation (EU) No 2021/241. The storage of the required information is provided in the IT system and for control and audit purposes the system's administrative officer provides access to it, subject to the provisions of the applicable legislation relating to the protection of personal data. Checks of milestones and targets by the Audit Body will aim to confirm that the reported milestones/targets by final recipients are met and the related data are complete, accurate, reliable, correctly aggregated, evidence-based, recorded in the national information system and subject to effective controls. The collection of data on progress and the reporting of the stages and objectives with the requests for payment to the EC is carried out by the National Fund Directorate. A milestone on the repository system features has been added to the Plan that provides reassurance that the IT system will be operational, with the basic functionalities to track the milestones and targets, before the first payment claim and that, all categories of data required by the RRF Regulation will be collected.

Adequacy of arrangements to avoid double EU funding

The arrangements for avoiding double funding are clearly described in the Bulgarian Plan. All of the participants of the implementation and control of Plan ensure that double funding from RRF and other EU funds is avoided – in each technical-financial report presented by the final recipient or the Monitoring and Reporting Structures, up-to-date information will be provided on related projects or investments that the final recipient implements with funding from other EU funds/programmes. Double-funding checks are carried out both for the cost ratio, and in relation to the investments in their entirety.

The Plan outlines the specific checks that will be carried out to prevent double funding from RRF and other EU funds during the implementation of the investment, i.e.:

- checks in the IT system for structural funds;
- checks in the Financial Transparency System;
- check of the existence of an adequate accounting system of the final recipients distinguishing between different funding;
- declaration of absence of double funding.

Bulgaria also declares that there is a clear separation of costs between RRF and other EU funds for each measure. In addition, they state that the Audit body carried out a review of the financing

and quantification of expenditure. The provided procedures are expected to contribute to the exclusion of the possibility of double funding. In case there is doubt about overlapping activities, additional information may be requested from the European office responsible for the programme and the corresponding grant/contract. The verification of the information in the Financial Transparency System related to related projects financed from sources outside the RRF aims at avoiding double funding as well.

Legal empowerment and administrative capacity of control function

Since the ministries/bodies described in the Plan are already part of the national set up, it is assumed that these bodies have already the legal mandate to exercise these tasks. However, the final approval of the Management and Control Systems in the specific context of the RRF is introduced as a milestone.

The Bulgarian Plan outlines the administrative capacity of staff involved in the implementation, control and audit of the Plan. The National Fund Directorate of the Ministry of Finance consists of 60 qualified experts. The Central Coordination Unit Directorate (responsible for the development of the National Plan for Recovery and Resilience) has 60 people staff. The Directorate for Economic and Financial Policy at the Ministry of Finance – 41 people staff. The Audit of EU Funds Executive Agency has a staff headcount of 72 people. However, it is mentioned that if the need arises, external persons with specific expertise, knowledge and skills to perform specific audit tasks might be involved under specific conditions. The Bulgarian authorities included a milestone on the workload analysis carried out for the National Funds Directorate and for the Audit Agency, taking into account the burden arising from the Recovery and Resilience Facility. The analysis shall be carried out before the first payment request and provide adequate information in terms of administrative capacity needs with a view to reaching them in a timely manner, including by developing a set of recommendations to address insufficient capacity where necessary. Based on the analysis and recommendations, the decision on the allocation of the necessary resources to the National Fund Directorate and the Audit Agency, shall be taken before the first payment request.

The arrangements proposed by Bulgaria in the recovery and resilience plan to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the Facility, including the arrangements aimed to avoid double funding from the Facility and other Union programmes, are assessed as acceptable provided that the pending issues are addressed before the first payment request, through the dedicated milestones. This would warrant a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

4.11. Coherence

Mutually-reinforcing measures

Each pillar is built around components which include overall consistent packages of mutually reinforcing and complementary reforms and investments. In addition, in order to create conditions for effective investments and to address implementation barriers, reforms are concentrated in the first years of the Plan. Investments and reforms proposed within any component do not contradict or hinder the effectiveness of measures from other areas of the plan. The measures in each of the individual components are mutually reinforcing, as investments are accompanied by reforms that aim to resolve structural underlying challenges. The Plan displays some thematic interlinkages and synergies, namely those related to digital transformation and green transition. In addition, measures contributing to an improved business environment support all investments included in the RRP, while investments and reforms in education and skills are also expected to foster the digital transition as well as research and innovation. Hence, the Plan is based on a consistent vision, showing coherence within the components of the four different pillars and between the objectives of each component.

Pillar 1 (Innovative Bulgaria) aims at increasing the competitiveness of the economy and the transformation also in an economy based on knowledge and smart growth through mutually reinforcing reforms and investments in education and skills, research and innovation and business transformation. The development of digital and STEM skills, supported by a comprehensive educational reform and investments in modernised infrastructure, play a key role for enhancing the science and innovation capacity of the country and the technological transformation of businesses.

Pillar 2 (Green Bulgaria) supports the sustainable management of natural resources through a broad set of mutually reinforcing reforms and investments in the decarbonisation of the economy, enhancing biodiversity and the development of sustainable agriculture. Measures on phasing-out lignite and coal fired-power plants are complemented with the deployment of renewables and alternative energy sources, as well as investments for improving energy efficiency.

Pillar 3 (Connected Bulgaria) includes reforms and investments in transport and digital connectivity, as well as more efficient water management throughout the country, which jointly contribute to reducing territorial disparities, in particular on the urban-rural axis. Furthermore, transport connectivity interventions also contribute to the decarbonisation objective, while investments digital connectivity can help increase the productivity and innovation capacity of business, improve the provision public services and support wider access to education and culture.

Pillar 4 (Fair Bulgaria) contains a comprehensive set of measures which jointly aim to achieve an inclusive and more sustainable growth through building effective and accountable public institutions sensitive to business and citizens' needs and supporting disadvantaged groups of society.

Complementarity of measures

All pillars under the Plan foresee measures that mutually reinforce the effects on the green transition. These include reforms and investments aimed at enabling the accelerated deployment of renewable energy sources and hydrogen and the development of storage capacities; improving the energy efficiency of residential, public and industrial buildings; sustainable mobility; stimulating the transition to green and circular business practices. Digital solutions included across the Plan, in particular, those in the transport and energy sectors, are also expected to contribute to the decarbonisation of the economy, and to promote smart, sustainable and inclusive growth. In addition to efforts to decarbonise the economy, efforts in the areas of water management and biodiversity conservation and restoration will also be key in the context of the objectives of the European Green Deal.

The digital dimension is identifiable in all pillars of the Plan with complementary reforms and investments on several fronts. The deployment of broadband infrastructure throughout the country will help bridge the digital divide and enable improved access to online services. Measures aimed at the transformation of public administrations and the increased provision of digital public services will improve the administrative processes and facilitate online interaction with citizens and businesses. Furthermore, digital solutions in the energy and transport sectors are expected to promote smart and sustainable growth. The investments in smart industries to accelerate the economic transformation is coherent with the objectives of supporting entrepreneurship, as well as with the programme for accelerating economic recovery and green transformation through science and innovation and investments to stimulate the uptake of digital technologies in enterprises, in particular in SMEs. These are complemented with measures for enhancing the digital skills of students and adults, as well as of businesses and public administrations, in order to enable them to benefit from the digital transition.

The second pillar includes several energy-efficiency measures that complement the electrification process in the green transition. In particular, measures on energy efficiency of the building stock and of municipal outdoor artificial lighting systems, the development of information systems and real-time systems of the Energy System Operator, along with a programme for financing standalone renewable energy measures in single-family and multifamily buildings. Progress could have been made in combining measures to accelerate the decarbonisation path and support the green transition, such as green taxation or stronger transport connectivity commitments. However, complementarities to energy efficiency measures are included in investments in sustainable mobility – such as the purchase of new rail rolling stock - and in the infrastructure of renewable electricity storage, as well as in the deployment of renewable energy sources. At a smaller scale, support of studies and pilot projects for the production of green hydrogen, biogas and geothermal combined heat and power is also envisaged.

The different components do not have negative effects on each other and in many cases reinforce the measures related to the green transition and digital transformation. In order to promote wider

coherence across instruments, notably with the European cohesion policy funds, a balanced territorial allocation of resources is encouraged. Taking into consideration the qualitative assessment of all components of Bulgaria's Plan, their individual weight (importance, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a high/medium/low extent, represent coherent actions. This would warrant a rating of A under the assessment criterion 2.11 of Annex V to the RRF Regulation.

ANNEX: Climate tracking and digital tagging

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
1b	STEM centres and innovation in education - digitalisation	121.7			108	100%
2a	Modernisation of educational infrastructures - renovated schools/kindergartens	179.85	026	40%		
2b	Modernisation of educational infrastructures - new schools/kindergartens	33.75	025ter	40%		
2c	Modernisation of educational infrastructures - renovated student residences	63.70	026	40%		
3	Provision of digital skills trainings and set-up of a platform for adult learning	164.66			012	100%
4	Youth centres	32.25			099	40%
7a	Programme to accelerate economic recovery and transformation through research and innovation - digital objectives	27.31			021	40%
8a	Enhancing the innovation capacity of the Bulgarian Academy of Sciences - digital	2.58			052	100%
8b	Enhancing the innovation capacity of the Bulgarian Academy of Sciences - quantum platform	0.51			021quarter	100%
8d	Enhancing the innovation capacity of the Bulgarian Academy of Sciences - technology transfer	8.18	022	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
8e	Enhancing the innovation capacity of the Bulgarian Academy of Sciences - trainings	1.67			009bis	100%
11d	Economic Transformation Programme — Fund 1 Growth and Innovation: Grant scheme for information and communication technology and cybersecurity in SMEs	15.65			010	100%
11f	Economic Transformation Programme - Fund 2 Green Transition and Circular Economy: Grant scheme for investments in renewable electricity sources for own use with local storage facilities	102.26	033	100%		
11g	Economic Transformation Programme — Fund 2 Green Transition and Circular Economy: Grant scheme for the support of businesses in the transition to a circular economy	73.62	047	40%		
11h	Economic Transformation Programme — Fund 2 Green Transition and Circular Economy: Grant scheme for the support of businesses in the transition to a circular economy	18.41	047bis	40%		
11i	Economic Transformation Programme — Fund 2 Green Transition and Circular Economy: Guarantee financial instrument for energy efficiency and renewable energy	37.5	024	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
11j	Economic Transformation Programme — Fund 2 Green Transition and Circular Economy: Guarantee financial instrument for energy efficiency and renewable energy	37.5	025	40%		
11k	Economic Transformation Programme — Fund 3 Investments in Climate Neutrality and Digital Transformation: Equity instruments for climate neutrality and digital transformation investments	30	024	40%		
13a	Support for the renovation of building stock - residential buildings	608.18	025bis	100%		
13b	Support for the renovation of building stock - public buildings	193.13	026bis	100%		
13c	Support for the renovation of building stock - manufacturing and commercial buildings - buildings in manufacturing, trade and services, as well as buildings from the tourism sector	122.67	024ter	100%		
14	Support for renewable energy for households	71.58	029	100%		
15	Support for energy-efficient street lighting systems	76.32	026bis	100%		
16	Digital transformation of the electricity transmission grid	189.18	033	100%	033	40%
17	Pilot projects for the production of green hydrogen and biogas	35	032	100%		
18	Support for new capacities for electricity generation from renewable sources and electricity storage	342	032	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
19	Pilot project on combined heat and power from geothermal sources	175.4	032	100%		
20	National <u>infrastructure for storage of electricity from renewables</u> (RESTORE)	799.05	033	100%	033	40%
31	Integrating the ecosystem approach and <u>applying</u> nature-based solutions into the <u>protection</u> of Natura 2000 sites	15.58	049	40%		
33a	Restoring key climate ecosystems in line with the EU Biodiversity Strategy 2030 and the objectives of the European Green Deal — Natura 2000	5	049	40%		
33b	Restoring climate key ecosystems in line with the EU Biodiversity Strategy 2030 and the objectives of the European Green Deal	26.9	050	40%		
34a	Fund to promote the technological and ecological transition of agriculture — ‘technological and environmental modernisation’ strand	162.62	047	40%		
34d	Fund to promote the technological and ecological transition of agriculture — ‘construction/reconstruction and equipment of livestock holdings for the rearing and assessment of male breeding animals’ strand	51	040	40%		
35	Digitisation of processes from farm to fork	10.2			011	100%
37	Large-scale deployment of digital infrastructure	269.59			051	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
38	Construction, development and optimisation of the digital TETRA system and radio network	63.66			011	100%
39a	Digital transformation of Bulgarian Post and delivery of complex services - digitalisation	34.76			011	100%
39c	Digital transformation of Bulgarian Post and delivery of complex services - telemedicine	3.59			013	100%
39d	Digital transformation of Bulgarian Post and delivery of complex services – charging stations	0.99	077	100		
39e	Digital transformation of Bulgarian Post and delivery of complex services - renovation	7.76	025	40%		
43a	Digitalisation in railways transport and ERTMS — Kaspichan section - ERTMS	44.79	071	40%	071	100%
43b	Digitalisation in railways transport and ERTMS — Kaspichan section – other digitalisation	60.47	068	100%	070	100%
44a	Railways rolling stock — ERTMS	45.12	071	40%	071	100%
44b	Railways rolling stock – rolling stock	295.40	072bis	100%		
45	European Train Control System on-board equipment	32.21	071	40%	071	100%
46	Intermodal terminal in Ruse	22.58	078	40%		
47a	Road safety - traffic management	1.06			063	100%
48a	Sofia metro line 3 – ERTMS	15.30			071	100%
48b	Sofia metro line 3	95.23	073	100%		

Measure/ Sub- Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
49a	Green mobility — Pilot scheme to support sustainable urban mobility - rolling stock	39.06	074	100%		
49b	Green Mobility — Pilot scheme to support sustainable urban mobility - integrated route systems	3.66			076	100%
49c	Green mobility — Pilot scheme to support sustainable urban mobility - recharging points	2.44	077	100%		
49d	Green Mobility — Pilot scheme to support sustainable urban mobility - Cycling infrastructure	1.7	075	100%		
56	Digitalisation for integrated management, control and efficient use of water	57.73	040	40%	011	100%
59	Strengthening, further developing and building on the Unified Information System of Courts	9.88			011	100%
60	Digitalisation of key litigation processes in administrative justice	3.64			011	100%
61	Transformation of the information and communication infrastructure at the Public Prosecutor's Office	14.71			011	100%
62a	Improving the quality and sustainability of the security services - digitalisation	24.55			011	100%
64	Supporting a pilot phase for the introduction of Building Information Modelling	3.98			011	100%
65	Unified Information System for Spatial Planning, Investment Design and Building Authorisation	1.76			011	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
66	Digitising data in the administration containing paper registries	48.57			011	100%
67	<u>Spatial monitoring, control and management through upgrading the Aerospace Monitoring Centre</u>	56.56			011	100%
68	Upgraded strategic planning system	0.73			011	100%
69a	Ensuring an adequate information and administrative environment for the implementation of the recovery and resilience plan	3.51			011	100%
82b	Modernisation of long-term care - energy efficiency	96.1	026bis	100%		
85b	Modernisation of the Social Assistance Agency - energy efficiency	1.55	026	40%		
85c	Modernisation of the Social Assistance Agency - digital component	1.45			011	100%
86a	Modernisation of the Employment Agency – energy efficiency	0.1	026	40%		
86b	Modernisation of the Employment Agency - digital component	11.81			011	100%
88	Digitisation of collections of museums, libraries, and archives	30.44			021bis	100%
95	National digital platform for medical diagnostics	12.05			095	100%
96	Improving the national emergency communication system	23.85			095	100%
97c	Development of outpatient care - Digitalisation	0.57			095	100%