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Analysis of the recovery and resilience plan of Czechia

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

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

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1. EXECUTIVE SUMMARY

The COVID-19 pandemic pushed Czechia's economy into a deep recession in 2020, with GDP declining by 5.6% and the unemployment rate rising to 2.6%. As containment measures have been eased, a swift recovery is expected with 3.9% growth in 2021 and 4.5% growth in 2022, driven by both domestic spending and foreign demand. At the same time, some worsening in unemployment figures is expected – from 2.6% in 2020 to 3.8% in 2021 and 3.5% in 2022, with the most negative effects on vulnerable groups. Investments and reforms financed from the Recovery and Resilience Facility (RRF) should help the recovery particularly from 2022 onwards. The government budget deficit is expected to deepen further to 8.5% in 2021 due to sustained fiscal support.

Czechia has made fast progress in catching up with the EU average in many areas in the years following EU accession, but population ageing, climate change and the digital transformation pose long-term structural challenges to the country's economy and society. Maintaining productivity growth, the backbone of Czechia's economic convergence, will require sustained structural reforms of education and training systems, innovation ecosystem and governance, targeted investment into infrastructures, and research and development (R&D). Moreover, Czechia is not yet sufficiently prepared for the green and digital transitions. Technological changes, such as the automation of production processes, are likely to have a significant impact on Czechia's economy, given the exposure of its large manufacturing sector, including automotive production. In addition, the pension and the healthcare systems pose long-term sustainability risks to public finances and the economy.

With a financial contribution of EUR 7.036bn, the implementation of the recovery and resilience plan (RRP) is expected to contribute significantly to the recovery, economic growth, and job creation in Czechia. All six pillars of the RRF are covered. Even though the plan focuses mostly on investments, the balance of the response appears broadly guaranteed. Investments are geared towards sustainable transport, energy, building renovation, digitalisation of public services and businesses, digital skills, childcare and social infrastructure and healthcare. The plan also includes a number of reforms which can help advance policies towards more efficient public administration, stronger competitiveness and cohesion**.** These reforms include streamlining and full digitalisation of procedures for granting construction permits, strengthening cancer screening programmes, digitalisation of education, strengthening support of disadvantaged schools, legislative changes to focus active labour market policies on the most vulnerable groups or long-term care reform including a deinstitutionalisation strategy.

The Czech plan can be considered a comprehensive and adequate response to the structural challenges identified in the country-specific recommendations (CSRs) of 2019 and 2020. In the area of energy, Czechia plans to benefit from the RRF support to expand the use of renewable energy sources, in particular photovoltaics, improve energy efficiency in residential and public buildings and support replacement of coal-fired boilers in households. Sustainable transport shall be promoted by investment in railway infrastructure, clean urban transport and promotion of the use of low-emission mobility. Recommendations in the area of R&D shall be addressed by investment geared at strengthening public-private cooperation as well as innovation ecosystem and financial and non-financial support to innovative firms. Business environment should be improved by ample e-government measures, anti-corruption

reforms and notably a comprehensive reform of the procedure for granting construction permits, which currently represent major obstacles to investment activity in Czechia. Key measures to address the labour market recommendations include upskilling and reskilling programmes to adjust the labour force to the needs of the industrial and digital transition, and construction of new childcare facilities for children below three years to foster the labour market participation of women. In the area of education, the plan aims at strengthening digital literacy of pupils and teachers, providing digital equipment to schools, while ensuring inclusive education through support to disadvantaged schools and tutoring of pupils. Healthcare recommendations are addressed through reinforced cancer prevention and rehabilitation care, development of an e-health portal aimed at fostering integrated care practices, and support to education in healthcare. Further complementary actions include measures to improve long-term care.

The implementation of the plan is expected to contribute significantly to economic growth and job creation in Czechia, while strengthening economic, social and institutional resilience. It is expected to provide a boost to aggregate demand in the short to medium term, improving the cyclical position of the Czech economy, and thereby mitigating the adverse economic effects of the COVID-19 crisis. The labour market is also expected to benefit by 2026, compared to the scenario with the absence of RRF support. Potential growth is expected to be boosted significantly and in a long-lasting manner, contributing to reach and progress further on the European Social Pillar Action Plan objectives by 2030. This should facilitate the country's transition to an economic model more focused on high-value-added activities, and which remains competitive and fair amid automation and digital change. The economic impact of the RRF could lead to an increase of Czechia's GDP of between 0.8% and 1.2% by 2026. Around three-quarters of the expected positive impact on total factor productivity growth stem from human capital policies such as education and training, research, development, and innovation.

With 41.6% of its allocation dedicated to climate-related measures, Czechia's RRP focuses on climate mitigation, adaptation, protection of biodiversity and natural resources. Investments in renewable energy sources, modernisation of district heating distribution networks, replacement of coal-fired boilers and improving energy efficiency of residential and public buildings are expected to help Czechia achieve its 2030 energy and climate objectives and to support the transition to a circular economy. The implementation of investments in gas and biomass are subject to specific conditions and should be guided by the sustainability criteria for renewable energy sources in line with the Renewable Energy Directive to be adopted by Czechia. Investments in sustainable transport are expected to improve railway and clean mobility infrastructure, including electro-mobility. This is set to boost the overall mobility ecosystem, which is key for the Czech economy. All the measures planned to be financed by the RRF respect the 'do no significant harm' principle.

With 22.1% of its allocation dedicated to digital measures, the plan is designed to contribute significantly to the digital transformation of the Czech economy and society. Development of digital skills is one of the objectives of the proposed education reforms, complemented by digital upskilling opportunities for working age adults. Moreover, the plan puts strong emphasis on digitalisation of the public administration, both as part of sectoral reforms of justice, construction permits and spatial planning, health care, as well as through horizontal measures aiming at increasing the quality and accessibility of eGovernment

solutions, improving the efficiency in the public use of IT resources, fostering the "once-only" principle through seamless data exchange and strengthening cybersecurity. A reform of the governance model for the digital economy, together with investments into digital innovation hubs and excellence centres, top digital technologies and digital capabilities of companies (in particular SMEs), together with investments in digital transformation of the creative and cultural sectors should help the development of a digital ecosystem. Digitalisation of the Czech economy should be supported by investment in very high capacity and 5G networks.

Czechia's RRP entails structural changes to institutions and policies and as such can be expected to achieve a lasting impact. Digitalisation efforts across a wide range of institutions and public administration are expected to structurally enhance efficiency and improve the quality of public services. Streamlining and digitalisation of the procedure for granting construction permits is expected to considerably improve the business environment and unblock construction investment in many areas. Reforms of the judiciary governance framework and in the fight against corruption are set to have a lasting impact. Revision of school curricula is expected to generate a qualitative shift in increasing digital literacy. Important legislative reforms are also foreseen in the area of employment policy, childcare, long-term care and cultural and creative sectors. However, substantial structural reforms have been omitted in other policy areas, such as energy, digital infrastructure or R&D.

Long-term sustainability of public finances is not addressed in the plan. Given the medium- to long-term nature of the challenge, the urgency to address it in the current economic situation is less evident than for the other recommendations. However, Czechia will continue to face medium-term risks for fiscal sustainability of public finances in the long term, mainly due to the costs of an ageing population. Improving long-term fiscal sustainability of the pension and health-care systems thus remains an important challenge to address in the coming years. In addition, the plan considers regional disparities only to some extent.

The plan proposes a comprehensive, clear and realistic set of milestones and targets in line with the objectives of each component. The milestones and targets are relevant, with their number generally ranging between two and three per measure. In the first years of the plan implementation, milestones are the predominant monitoring device, often relating to the entry into force of the legal framework, launch of a support programme 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 realistically indicate whether the measures have been achieved. Hence, the proposed milestones and targets can be considered in line with the long-term objectives of the plan.

The Technical Support Instrument (TSI) provides expertise in building capacities to implement the plan in several areas covered by the plan such as digitalisation of government, smart and intelligent mobility, digital infrastructure and public infrastructure investments, as well as for the overall implementation of the plan.

Overall, costing information and supporting documents are provided to a medium extent and provide a sufficient basis to assess the reasonability and plausibility of cost estimates. At the same time, for certain measures information and supporting documents or other comparable data have been provided to a limited extent, which hampers the degree to

which these specific cost estimates can be considered reasonable and plausible. Overall, synergies with other EU funding remain to be explained. For various measures, these synergies need to be carefully monitored at a project level.

Provided the milestones mentioned below are met before the first payment request, the arrangements proposed in the recovery and resilience plan and the additional measures contained in the proposal for the Council implementing decision are adequate to prevent, detect and correct corruption, fraud and conflicts of interests, and the arrangements are expected to effectively avoid double funding. The Commission will in its risk based audits pay particular attention to potential conflict of interest that may arise from the use of blind trusts. In general, identification of the actors responsible for controls and audit in Czechia is explained in a sufficient way and the independence and segregation of functions of the audit body clearly set out, including how it is enshrined in Czech legislation. The national arrangement for the implementation of the recovery and resilience plan are set out in Government resolution No 467 of 17 May 2021. The Managing Council of the national recovery and resilience plan is the highest decision-making and approval body with the responsibility for the overall coordination and monitoring of the recovery and resilience plan. The Ministry of Industry and Trade, as the responsible authority for the recovery and resilience plan and its implementation, is responsible for coordination, monitoring and reporting of the recovery and resilience plan and is main point of contact for the Commission. Following recent audits on other EU programmes, there were identified serious deficiencies in the prevention, detection and correction of cases of conflict of interests at the Ministry of Industry and Trade.

Dedicated milestones are included in the plan to ensure that these weaknesses have been addressed before the first payment request. Additional milestones to be fulfilled by the time of the first payment request are set requiring (i) a compliance review of the national procedures to ensure that the application of beneficial ownership in the context of the Facility's internal control system is fully aligned with the definition of 'beneficial owners' as defined by Article 3, point 6 of Directive 2015/849, as amended by Directive 2018/843, (ii) the audit body to adopt an audit strategy ensuring the independent and effective audit of the RRF implementation, (iii) the RRF Managing Council to approve and implement procedures for the system to collect, store and process data in relation to all final recipients, including all beneficial owners as established by Article 3 of the Directive (EU) 2015/849 and procedures with the description how the records will be kept, and (iv) a repository system for monitoring the implementation of the RRF and for collection and storage of all the data referred to in Article 22(2)(d)(i) to (iii) of the RRF regulation shall be put in place and operational.

The plan presents a vision of a modernised Czechia centred around six key policy areas, which are implemented through 26 components. Synergies are ensured in thematic components (e.g. education and training components), as well as horizontally across several components (e.g. when applying energy efficiency requirements for public buildings renovations, digital transition of the public administration or the focus on healthcare in higher education, research and infrastructure investment).

Assessment and rating of the Czech RRP under the criteria laid down in Article 19(3) of the Recovery and Resilience Facility Regulation in accordance with its Annex V.

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

2. RECOVERY AND RESILIENCE CHALLENGES: SCENE-SETTER

2.1. Macroeconomic outlook and developments since the 2020 country report

Economic growth in Czechia reversed sharply in 2020 as the pandemic brought disruptions, particularly affecting the country's large export-oriented manufacturing industry. Real GDP declined by 5.6% in 2020. The recovery is expected to take hold in spring 2021 and GDP is forecast to reach its pre-crisis level by the end of 2021. The macroeconomic and fiscal outlook continue to be affected by high uncertainty related to the COVID-19 pandemic and its economic consequences.

The COVID-19 pandemic and the corresponding containment measures resulted in a sharp fall in real output in 2020. The economic downturn was driven by a collapse in both foreign and domestic demand. Despite being supported by a resilient labour market, propped up by short-term work scheme "Antivirus" programme, as well as by other fiscal support measures, household consumption declined strongly. While the support measures cushioned the fall in retail sales, services, especially the hospitality sector, suffered larger losses. Investment and construction output also fell sharply due to increasing uncertainty about future developments.

Private consumption is likely to remain the main driver of the economic recovery, reflecting a stable labour market, pent-up demand, and a declining trend of the high savings rate of households. The cuts in the personal income tax, with effect from the beginning of 2021, will also be supportive for private consumption. Due to some remaining disruptions in supply chains, investment is expected to recover at a slower rate. The trade balance is likely to be slightly positive both in 2021 and 2022, also reflecting the recovery of Czechia's key trading partners. However, the negative impact of the pandemic on client-facing services such as hospitality, tourism and transport may last longer. While the unemployment rate in Czechia is expected to remain low, the expected increase in 2021 and 2022 may have a negative impact especially on persons in vulnerable situations. According to the Commission's Summer interim 2021 Forecast, economic activity is expected to return to its potential growth over the forecast horizon, with GDP increasing by 4.5% in 2022. HICP inflation is forecast to slow to 2.7% in 2021 and to 2.3% in 2022, towards the national central bank's monetary policy target of 2%. Price pressures are expected to ease due to anti-inflationary demand effects from the second wave of the pandemic amid subdued domestic

economic activity. At the same time, muted wage growth is forecast to dampen increases in domestic labour costs.

Income inequality in Czechia remains low relative to the EU-27 average. The income of the richest 20% of the population was around 3.5 times higher than the income of the poorest 20% in 2018, significantly lower than the ratio of 5 times in the EU. This ratio, monitored through the Social Scoreboard indicator accompanying the European Pillar of Social Rights, has remained stable since 2005, due to a relatively even increase in real disposable household income across the different income groups. Low inequality is due to market incomes (i.e. income received by households before taxes and social transfers) being distributed relatively equally. The gap between market income inequality and disposable income inequality (i.e. after taxes and transfers) is similar to the EU average, suggesting that the Czech tax-benefit system is in line with the EU in terms of reducing inequality.

Czechia deployed extensive fiscal stimulus to cushion the downturn in 2020 and to support the recovery in 2021. The general government balance ended 2020 with a deficit of 6.2% of GDP. The result was driven by higher expenditures due to several government support programmes, including short-time work schemes like the 'Antivirus' programme and the 'Compensation bonus for self-employed', subsidies schemes for companies, as well as by declining corporate income tax and VAT collection linked to the drop in private consumption. The emergency fiscal measures to cushion the downturn in 2020, together with the pre-existing tax-benefit system, have absorbed about one third of the shock on household market incomes in Czechia, with the largest part of the effect due to monetary compensation schemes.[1] Even with a partial economic recovery in 2021 and therefore an increase in tax revenues, the budget is likely to remain stretched in 2021 and 2022. New support programmes for companies affected by the lockdown ('COVID-2021' and 'COVID-Uncovered costs'), as well as a cut in personal income tax could lead to a budget deficit of 8.5% in 2021, according to the Commission's Spring 2021 Forecast. While the pace of growth in public debt in 2020-2022 is above the EU average, the size of public debt is still low compared to other Member States. The public debt-to-GDP ratio, which stood at 38.1% in 2020, is forecast to rise to 44.3% in 2021 and 47.1% in 2022.

The banking sector before the crisis was stable, profitable, well capitalised, and not directly exposed to sovereign debt. While banks' profitability might be impacted by the crisis, risks seem to be contained so far. The decline in economic activity and the associated deterioration in the financial situation of many households and companies might bring about an increase in the volume of non-performing loans, although for the moment the ratio of non-performing loans with deferred instalments is lower than expected. A reduction in the quality

[1] See Christl, M, De Poli, S., Figari, F., Hufkens, T., Leventi, C., Papini, A. and Tumino, A. (2021) "The cushioning effect of fiscal policy in the EU during the COVID-19 pandemic", JRC Working Papers on Taxation and Structural Reforms, 02/2021 (forthcoming); and Almeida, V., Barrios, S., Christl, M., De Poli, S., Tumino, A., Van der Wielen, W. (2020): 'Households´ income and the cushioning effect of fiscal policy measures during the Great Lockdown', JRC Working Paper on Taxation and Structural Reforms, 06/2020, available at https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121598.pdf

of banks' loan portfolios should not jeopardize financial stability. Furthermore, the Czech central bank has already announced an increase in the countercyclical capital buffer, in force from July 2022. Around 90% of the banking system assets are foreign controlled (mostly of the EU origin). Current household debt is mostly in CZK, whereas one third of the corporate debt is in EUR. The central bank increased monitoring of subsidiaries of foreign banks and the use of prudential measures. Monetary conditions are accommodative. The insolvency framework is more robust compared to regional peers, but pre-insolvency regimes are missing.

The macroeconomic scenario underlying the RRP is based on plausible macroeconomic assumptions. The macroeconomic scenario is in line with the latest forecast of the Ministry of Finance (MoF), which is also the basis for Czechia's 2021 Convergence Programme. The convergence programme contains forecast for macroeconomic and fiscal fundamentals up to 2024. Its forecast was assessed by the Budget Forecasts Committee, which considered it realistic in terms of likelihood of compliance, in line with the law on budgetary responsibility rules. For the longer forecast horizon for Czechia's RRP, necessary assumptions on economic, price and employment developments were adopted. Given the usual absence of cyclical fluctuations in the long-term, a constant growth rate was chosen for 2025 and 2026.

Economic growth projections are slightly more pessimistic both for 2021 and 2022, when compared to the Commission's Summer interim 2021 Forecast. This is mainly due to assuming a milder recovery in private consumption. The expected development of both the Czech labour market outcomes and price development are broadly aligned with the Commission's view. According to the Czech RRP, economic growth is expected to moderate towards 2% in 2023 and beyond, driven by both domestic and foreign demand. According to the plan and in line with the Commission's forecast, inflation is set to remain contained but slightly above the central bank's inflation target. The MoF forecasts the general government deficit amounting to 8.8% of GDP in 2021 and 5.9% of GDP in 2022. In comparison, the Commission Spring 2021 Forecast envisages a budget deficit of 8.5% of GDP for 2021 and 5.4% for 2022.

Table 1: Comparison of macroeconomic developments and forecasts

	2019	2020		2021		2022		2023	2024	2025	2026
		COM	RRP	COM	RRP	COM	RRP	RRP	RRP	RRP	RRP
Real GDP (% change)	2.3	-5.6	-5.6	3.9*	3.1	4.5*	3.7	1.9	2.1	2.0	2.0
HICP inflation (% change)	2.6	3.3	3.3	2.7*	2.4	2.3*	2.3				
GDP deflator	3.9	4.2	4.2	2	1.8	2.1	1.7	2.0	1.9	2.0	2.0
Employment (% change)	0.3	-1.5	-1.5	-1.5	-1.1	0.3	0.1	0.3	0.1	0	0

Unemployment rate (%)	2.0	2.6	2.6	3.8	3.6	3.5	3.7				
General government balance (% of GDP)	0.3	-6.2	-6.2	-8.5	-8.8	-5.4	-5.9				
Government debt (% of GDP)	30.3	38.1	38.1	44.3	44.8	47.1	48.4				

Source: Commission's Summer interim Forecast (2021) (COM*), Commission's Spring Forecast (2021) (COM), Czechia's 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

The recovery of the Czech economy will depend on its capacity to diversify and lift the value added of its products and services. The growth model driving Czechia's economic performance over the past ten years has been based on Foreign Direct Investment (FDI) and trade openness, supported by geographical proximity to core EU markets, wage competitiveness, and the inflow of EU funds. These factors have been boosting productivity and employment growth. However, the relatively low unemployment levels and bottlenecks in the labour market pushed wages upwards over the past years. Overall competitiveness and labour productivity have been reduced. Although the demand for labour has decreased in the pandemic, the structural issues remain, including those related to labour and skills shortages. In addition, a gap remains between large and small and between foreign-owned and domestic enterprises in terms of R&D expenditures and international competitiveness. Considering demographic trends, it will remain crucial to increase labour productivity, benefitting from automation, robotics, and digital technologies. As the Czech companies are highly integrated in global supply chains, moving to positions with higher added value is necessary for Czechia to remain competitive in comparison with its regional peers.

Czechia's future growth also depends on the ability to remain attractive for investments. Removing barriers to investments to support local entrepreneurship and SMEs, especially in R&D intensive industries, will be key. This includes barriers of (i) administrative nature (such as lengthy and heavy administrative procedures, issues pending regarding public procurement, the lack of predictability in business regulation, administrative and regulatory burdens, and unclear landscape of business support schemes), (ii) physical nature (lacking transport infrastructure) as well as (iii) labour and skills shortages mismatches, notably due to the too low number of graduates in science, technology, engineering and mathematics (STEM) disciplines and graduates' inadequate training. Developing further the local system of entrepreneurship also needs to be supported by more

advanced capital markets, as currently venture capital remains very limited and equity issuance is negligible, especially for pre-seed and seed high-risk enterprises. This is a particular concern in a recovery context, when fast growing enterprises, which tend to need equity finance more than others, carry a premium.[2]

The modest performance of the public science base is a key bottleneck for the country. Despite an adequate level of public R&D funding, the scientific and technological performance remains modest. A key factor for inefficiencies is the high degree of fragmentation of the public research sector. It is essential to underpin the public R&D investment by structural and comprehensive reforms, such as setting up an efficient governance and coordination mechanism for research and innovation policy at national level, tackling the fragmentation of the public research sector and simplifying the regulatory framework for public-private cooperation and commercialisation of research results.

Given the importance of the automotive industry for the Czech economy, the highly cyclical nature of this sector, its focus on exports and its dependence on supply chains pose a risk. In the medium to long term, risks are compounded by structural changes that the automotive industry will undergo, as emission standards are progressively tightened. The switch to alternative fuelled vehicles will require significant investment in technological development, in machinery and equipment, and in infrastructure, with possible impacts on employment, supply-demand relations, and energy prices.

Social and territorial cohesion

Czechia performs better than the EU average on the overall poverty or social exclusion indicators and the living standards are increasing, although disparities remain among groups of population and regions. Despite some improvement in the demand for low-skilled labour, the employment rate of the low skilled is still considerably lagging behind that of the medium and high skilled and there is also further scope to improve the employment outcomes of people with disabilities. Early school-leaving is high in socially disadvantaged families. Furthermore, gender inequalities in pay and employment remain high (see Box 3). Women aged between 25 and 49 with small children continue to be underrepresented in the labour market. The negative impact of parenthood on female labour market participation continues to be high, holding women back from advancing their careers. More reforms and investments are needed in terms of childcare, long-term care integrating social and health care, development of equitable education and training system, as well as in tackling the challenges associated with ageing, technological change, and environmental sustainability.

Regional differences in socio-economic indicators persist and new challenges emerge. In particular, Northwest Bohemia and Moravia-Silesia, regions historically dependent on coal mining, lag behind the rest of the country in terms of productivity, unemployment rate, educational outcomes, share of people at risk of poverty, life expectancy, as well as air

[2] See the CZ factsheet in: Benedetti Fasil, C., Del Rio, J.C., Domnick, C., Fako, P., Flachenecker, F., Gavigan, J., Janiri, M., Stamenov, B. and Testa, G., High Growth Enterprises in the COVID-19 Crisis Context, EUR 30686 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-37269-1 (online), doi:10.2760/63402 (online), JRC124469

quality. These regions also suffer from a persistent population outflow and high school drop-out rates. The situation is particularly unfavourable in Northwest Bohemia where the living standard have diverged from the rest of the country over the last two decades. Conversely, richer regions achieve much better educational outcomes and have a greater innovation capacity, making them more attractive for private investment.

Health, and economic, social and institutional resilience

Czechia's public sector performance and government effectiveness need to be further improved. Digitalisation of public services and reduced administrative burden at all levels of government remain key priorities. Czechia needs to increase the take-up of the digital public services and speed up the implementation of the national eGovernment strategy. A reform of the procedures to grant construction permits is necessary to shorten the length of the issuance of the construction permits while at the same time proper balancing of public interests needs to be safeguarded. Several important reforms of the Czech justice system are currently ongoing or in preparation, including on the selection procedure for judges, disciplinary regime for judges and prosecutors and introduction of the e-file. These reforms could increase the efficiency, independence and accessibility of the judiciary. Additional improvements can be brought also to public finances. Periodic spending reviews can help align the public expenditures with the new emerging economic priorities while the use of green budgeting would help manage the challenges of green transition. The long-term sustainability of the public finances will also need to be addressed especially in terms of cost of ageing. In this respect, the latest measures focused more on pension adequacy while the retirement age was capped at 65 and it has not been increased in line with the recommendations from the latest report on the pension system published by the government.

In the context of the pandemic, a special focus is warranted on the performance of the health system and its sustainability. Population health outcomes are lagging but have positively converged toward the rest of the EU in the last decade. There are differences in access to healthcare. While overall self-reported unmet needs are one of the lowest in the EU (Box 3), there are regional disparities regarding the distribution of health care resources and health care personnel. Travelling distances appear to pose a moderately elevated challenge in accessing healthcare compared to the rest of the EU. In the medium term, Czechia could benefit from pressing ahead with the reform of primary care, implementing the new health strategy running until 2030, investing in care coordination and reduced hospitalisations, and further developments in e-health, including the enhancement of the digital competences of general practitioners and interconnection of monitoring and tracing systems.

Policies for the next generation, children and youth, including education and skills

Policies for the next generation, children, and youth, including education and training providing relevant skills need to be implemented to address future labour shortages. Preparing the workforce for progressive industrial automation and digitalisation of work patterns is a key element to achieve higher growth prospects, moving Czechia up in the global value chain. This will require investment in a broad set of skills, not only digital and technical but also transversal and non-cognitive ones. Efforts should be strengthened with respect to adult learning where Czechia lags behind in terms of participation, institutional infrastructure, and funding. Inclusive quality education and training, as of an early age and throughout people's careers, and enhanced education are essential to recap all the

transformative power of digital technologies and contribute to the European skills agenda, the European Pillar of Social Rights, and the European Education Area. However, participation in early childhood education care is low, in particular for under 3-year-olds (6.3% against the EU average of 35.3% in 2019). Moreover, educational outcomes are strongly influenced by socio-economic background and inter-school differences are pronounced. To date, education outcomes for many Roma continue to be a cause for serious policy concern. The attractiveness of the teaching profession has been limited in Czechia, due to low salaries and low prestige. The teaching profession needs to be promoted through better career development opportunities and trainings. Empowering teachers with digital skills would provide support in changes brought by future digital transition.

2.3. Challenges related to the green and digital transition

An overarching objective of the RRF is to support the twin transition.[3] Czechia is among the less advanced Member States in achieving carbon neutrality and in reaping the benefits of the digital transition, as measured in the Commission's assessment of Czechia's 2020 National Energy and Climate Plan (NECP)[4] and the 2020 Digital Economy and Society Index (DESI). To achieve climate neutrality and successful digitisation of the society and economy, Czechia will need to increase its ambitions. This section recalls where Czechia stands in achieving targets related to the green and digital transitions.

Green dimension

The plan should contribute to the green transition and at least 37% of the financial allocation needs to contribute to climate objectives. The measures in the plan shall contribute to achieving the 2050 climate neutrality objective, and the 2030 energy and climate targets, while considering Czechia's national energy and climate plan. The measures should also contribute to meeting 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 as appropriate, while ensuring that nobody is left behind.

Although Czechia made progress in decoupling environmental pressures from economic activity and improving environmental infrastructure, it still has a mixed performance in implementing environmental policies effectively. Further progress towards sustainable

[3] The Regulation stipulates that the Facility should support the green transition towards achieving the Union's 2030 climate targets and complying with the objective of EU climate neutrality by 2050. It should also support the digital transition [according to the Council mandate]. In this regard, the Regulation sets a binding target that the measures in the plan shall contribute for an amount of at least 37% of the plan's total allocation to contribute to climate mainstreaming. It also sets a binding target that the measures in the plan shall contribute for an amount of at least 20% of the total allocation to contribute to the digital transition or the challenges resulting from it.

[4] Prepared based on Regulation 2018/1999 of the European Parliament and the Council on the Governance of the Energy Union and Climate Action.
Economidou, M., Ringel, M., Valentova, M., Zancanella, P., Tsemekidi Tzeiranak, S., Zangheri, P., Paci, D., Ribeiro Serrenho, T., Palermo, V. and Bertoldi, P., National Energy and Climate Plans for 2021-2030 under the EU Energy Union, EUR 30487 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27013-3, doi:10.2760/678371, JRC122862.

development will require implementation of a package of "green reforms" to phase out a low-carbon economy, ensuring coherence between environmental and energy policies, and pricing carbon[5]. There are currently no new carbon and energy tax measures in place that would effectively support the climate transition. In terms of key environmental challenges, the air quality, circular economy, and water management sector (addressing floods and droughts) stand-out as major environmental investment needs and form the elements of a green-reform package (including a fiscal element).

[5] Tsemekidi-Tzeiranaki, S., Paci, D., Cuniberti, B., Economidou, M. and Bertoldi, P., Analysis of the Annual Reports 2020 under the Energy Efficiency Directive, EUR 30517 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27416-2, doi:10.2760/180952, JRC122742.

GHG emissions

Czechia has some of the highest greenhouse gas (GHG) emissions per capita in the EU. This is mostly due to significant reliance on coal, a highly industrialised economy, extensive transport sector and rather inefficient use of energy. Compared to 2005, GHG emissions declined by 4% in 2018. Additional effort is, however, needed to meet the 2030 emission reduction commitments. The main objective of Czechia is to reduce the total GHG emissions by 14% by 2030 compared to 2005 under the Effort Sharing Regulation.

Greenhouse gas emissions could be significantly reduced by investing in renewable energy and local energy community networks. This would also reduce air pollution which is above the EU average and contributes to premature deaths in the most polluted areas**.** The concentrations of air pollutants in certain zones, notably in urban areas, are continuously above the limit values, including the daily limit values for inhalable particles matter. The level of air pollution is influenced mainly by the combustion of solid fuels in household heating facilities and traffic.

Regarding mobility, a further upgrading of key sections of Czechia's infrastructure can boost the shift towards a more climate-friendly and sustainable mode of transport and support the modal shift. A modernised passenger rolling stock can increase the attractiveness and the service quality for citizens. At local and urban level, a modern and attractive public transport should help to reduce emissions and improve the quality of life. The existing investment gaps are mostly linked to the infrastructure quality and standards, in particular the infrastructure requirements defined in TEN-T Regulation. Further investment needs to be urgently provided to active mobility infrastructure, such as bike lanes, and taking steps to increase safety of vulnerable road users on the existing infrastructure. There is also a high need for clearer strategy and investment to move to zero/low emission vehicles both in terms of increase in the number of electric vehicles and publicly available recharging infrastructure. The shift towards low-emission road transport should be supported by appropriate carbon tax measures and regulatory arrangements.

Energy efficiency

The energy intensity of the Czech economy remains one of the highest in the EU,[6] more than double the EU average. There is a significant potential to improve energy performance of the public, commercial and residential building sector. Further investments are required in particular for building renovation, including thermal retrofitting, as well as for the improvement of thermal performance of district heating networks. Progress towards better energy performance of buildings is slower than in the rest of the EU. [7] Czech authorities

[6] The level of primary energy consumption in Czech Republic reached 39.9 Mtoe in 2016 which is steadily around the 2020 target. The final energy consumption in 2015 reached 24.2 Mtoe.

[7] For the assessment of the Czech long term buildings renovation strategies see: Castellazzi L, Zangheri P and Paci D. Synthesis Report on the assessment of Member States` building renovation strategies. EUR 27722. Luxembourg (Luxembourg): Publications Office of the European Union; 2016. JRC97754; and Castellazzi L., Zangheri, P., Paci, D., Economidou, M., Labanca, N., Ribeiro Serrenho, T., Zancanella, P. and Broc, J., Assessment of second long-term renovation strategies under the Energy Efficiency Directive, EUR 29605 EN,

would benefit from increasing specific expertise and ability to prepare and implement complex renovation projects. General awareness of the benefits of energy efficiency shall be targeted. Support for project preparation, flexibility of financing in particular combination of various financial instruments and promoting energy efficiency and renewable energy financing with the help of financial institutions would increase the interest into energy efficiency projects. Investing in energy efficiency improvements in households (building renovation and optimising their lifecycle performance in line with circular economy principles, including thermal retrofitting), private sector (particularly SMEs) and public sector would reduce energy intensity, prolong life expectancy of built assets, and increase Czechia's cost competitiveness.

Renewable share

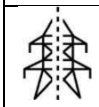
Renewables in gross final energy consumption have been stagnating for many years as a large portion of electricity in Czechia is still generated from coal and gas. The share of renewables increased to 16.2% in 2019 (compared to the 13% target in 2020). Czechia has set a 20.8% share of energy from renewable sources in gross final consumption of energy in 2030 as a renewable energy contribution to the EU renewable energy target for 2030. This level of ambition is below the share of 23% in 2030 that results from the formula contained in Annex II of the Energy Union Governance Regulation.[8] The increase of variable renewables foreseen by 2030 is insignificant and Czechia is not planning measures for the integration of large amounts of renewable electricity, even though the latter could partly replace coal and gas in a cost-effective way. At the same time, the support of biomass-based renewables is not sustainable. The support of bioenergy, which implies increased use of biomass, is problematic in Czechia. Czechia does not respect the "no debt rule" under Land Use, Land Use Change and Forestry (LULUCF), while current investment plans are heavily reliant on future large-scale biomass heating and transport, while an assessment of the trajectories and sustainable supply of biomass, and its impacts on the LULUCF sinks and biodiversity as well as impact on air quality shall only be carried out. The infrastructure and the access rules shall support an important development of decentralized small renewable sources, in particular renewable electricity generation. Smart grids would enable free further resources by supporting the development of demand response mechanisms. Specific attention should be paid to stranded assets and the need to invest in a future-proof infrastructure. At component level, measures under Pillar 2 'Physical Infrastructure and Green Transition' have the greatest impact on the implementation of the green transition.

Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-79-98727-4, doi:10.2760/973672, JRC114200.

[8] 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

Table 2 below gives an overview of Czechia's 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.

Table 2: Czechia's national targets and contributions regarding energy and climate

	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 (%)	4% (2018)	9%	-14%	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	16.2% (2019)	13%	22%	Unambitious (23% is the result of RES formula)
	**National contribution for energy efficiency:**				
	Primary energy consumption (Mtoe)	40.4 (2018)	43.3	41.43	Low
	Final energy consumption (Mtoe)	25.3 (2018)	23.9	23.65	Modest
	Level of electricity interconnectivity (%)	26.6% (2018)	29.6%	44.1 %	N/A

Source: Assessment of Czechia's national energy and climate plan, SWD (2020) 902 final.

Environmental protection and climate change

As regards the main environmental challenges, Czechia is on track meeting the EU's 2020 recycling target. However, more effort is still needed to comply with the recycling targets set for the post-2020 period as the landfilling remains a particularly important waste treatment option.

Air quality remains a significant problem. Although the national scheme for exchanging boilers in individual households, supported by the Cohesion Policy funds is being implemented in all regions, domestic solid fuels combustion together with the old car fleet remains the largest source of air pollution. Particulate matter, nitrogen dioxide, ozone and benzo(a)pyrene cause the main concern and health risks for the Czech citizens.

The most significant pressure on rivers is from anthropogenic pressure and diffuse pollution from agriculture is the most significant pressure on groundwater bodies. The main pressures on nature and the Natura 2000 network remain the changes in agricultural land management (both the abandonment of land and intensification of farming), forestry and intense fishpond farming. The expected progress resulting from planned measures is low as significant pressures such as hydromorphological pressures are not addressed.

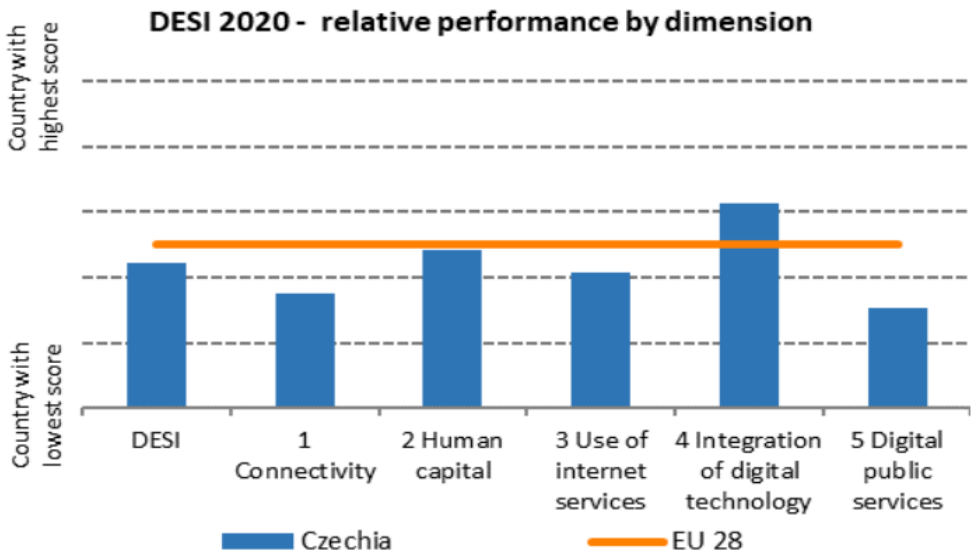
Due to anthropogenic changes, damage to the soil by compaction, water and wind erosion and the loss of biodiversity, water retention capacity of land has been worsening in Czechia to current deficit. Following several years of drought, Czechia has been experiencing

devastating bark beetle calamite since 2018. To ensure flood and drought prevention and protection, improving the water retention ability of the landscape is a key element. While Czechia is planning to apply several close to nature measures, a strategy to systematically **support measures, nature-based solutions in floods and droughts management as priority measures** through comprehensive planning are not yet implemented.

Digital dimension

Czechia ranks 17th in the Digital Economy and Society Index 2020 (DESI). Based on data prior to the pandemic, Czechia's strongest dimension was the integration of digital technologies. The score was high thanks to a solid performance in e-commerce. At the same time, the Czech companies reported difficulties in finding digital experts. The government was rolling out fixed very high-capacity networks and new digital public services but take-up remained limited.

Chart 1: Performance of Czechia in the Digital Economy and Society Index (DESI 2020)



Note: EU aggregate corresponds to EU28, based on 2020 DESI report.

Czechia ranks 24th in the connectivity dimension. Despite a very high coverage of fast internet (97%), fixed very high-capacity networks cover only 33% of the households. In addition, there is a significant divide between urban and rural areas where the coverage is only 6% of rural households. The take-up of ultra-fast broadband services is curbed by low demand caused by several factors (e.g. subscription price, population purchasing power, age, education). To improve connectivity, more investment is needed in very high-capacity networks, accompanied by appropriate demand-side measures. Czechia finalised the 5G auction and awarded frequencies to 5 operators including the 3 main Czech players.

Digital transformation is on track, but advanced digital skills need to improve to address the growing need of organisations and companies to quickly go through the digital transformation. The role of education and training systems at all levels – from the primary and secondary to the tertiary – will be essential. Czechia also needs to train teachers,

better equip schools, support new university programmes in advanced technologies and ensure equal access to digital learning (also for disadvantaged students). The government also needs to stimulate adult training and encourage companies to provide on-the-job training on digital skills and intensive digital courses for employees to up/reskill them on the job.

Despite some progress in terms of rolling out digital public services, Czechia ranks 22nd in DESI index for eGovernment. The COVID-19 pandemic showed the government's inability to use the full potential of digital technologies to make the economy and society more resilient. The quality and inter-connection between the current services remain low: the legislation does not fully reflect the shift to digital, users' interface is too complex, ICT procurement is often overpriced, systems tend to have cybersecurity gaps, and citizens and businesses are reluctant to use public services digitally. Czechia needs to increase the take-up by increasing citizens' and businesses' trust in the existing and new eGovernment services and by making them more user friendly and interoperable, ideally through a central Public Administration Portal. Part of the actions related to the improvement of eGovernment are reflected in the plan. Linked to eGovernment, the digitalisation of and improvement of access to justice via electronic means constitutes a reform priority for Czechia.

Digitisation of businesses and in particular SMEs needs support. The COVID-19 crisis showed that the ICT sector is relatively mature and the start-up scene in this field is active. Czechia is a leader in the video gaming or cybersecurity industry. However, traditional businesses struggle to embrace the digital transformation. Technologies can be a fundamental tool for economic recovery by favouring the shift towards sustainable manufacturing. A major obstacle to the digitisation of companies is the lack of digital technology experts, particularly for SMEs. Companies cannot find sufficiently qualified workers, especially in areas such as automation and data analytics. Czechia needs to roll out policies and initiatives that will help companies find and hire digital experts and support excellence centres such as digital innovation hubs to help digitise the economy. These centres should also offer sufficient technological capacities such as supercomputers or cloud infrastructure. Czech businesses would benefit if the country would join digital multi-country projects such as potential Important Projects of Common European Interest (IPCEI) that would provide new digital capacities and expertise in areas such as quantum, cybersecurity, blockchain or microelectronics. Potential IPCEI would also allow to focus investments on a few strategic industrial value chains to support the green and digital transition as well as an open strategic autonomy of the Czech economy. The authorities are committed to encourage solutions based on artificial intelligence.

Box 1: Progress towards the Sustainable Development Goals

Eurostat for monitoring progress towards the SDGs in an EU

Figure: SDGs and key dimensions of the recovery and resilience plan

In this figure, the United Nations' Sustainable Development Goals 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.



1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnership for the goals

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 Czechia'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 RRPs (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.

Green transition

Czechia's record in green SDGs is mixed (see also Section 2.3.1). Despite recent initiatives, meeting its climate and environmental targets requires additional efforts. Final energy consumption remains high and energy productivity is significantly below the EU-27 average. While energy import dependency is below the EU-27 average, the share of renewable energy in gross final energy consumption remains low. Even though improvements have been made, the greenhouse gas emission intensity of energy consumption remains significantly above the EU-27 average, suggesting improvement potential on SDG 7 'Affordable and clean energy' and SDG 13 'Climate action'.

Fairness

There has been some progress made in most fairness-related SDGs, in particular on poverty (SDG 1 "No poverty"), well-being (SDG 3 "Good health and well-being") and decent work (SDG 8 "Decent work and economic growth"). The employment rate of 82.4% (age group 20-64) in 2020 was one of the highest in the EU. Czechia performs well with respect to the risk of poverty or social exclusion, with only 12.5% of the population facing such a risk in 2018, the lowest in the EU. There were clear improvements in avoidable mortality, work and traffic accidents, and exposure to particulate matter. The gender pay gap has decreased slightly in recent years but 18.9% stood above the EU-27 average (of 14.1%) in 2018. Despite recent improvements, the employment rate of women is significantly below that of men, mainly attributable to caring responsibilities of women. Challenges persist on SDG 4 'Quality education', where post-secondary educational attainment and participation in adult learning remain below the EU average. It is estimated that due to ongoing technological change, about 37% to 69% of low-skilled jobs could be automated in the EU in the near future, raising the demand for better educated and better skilled workers. Compared to other Member States, Czechia performs very well in terms of the share of early leavers from education and training, despite recent deterioration in the disadvantaged regions. On SDG 10 'Reduced inequalities', there remain persistent and relatively high gaps between Czech nationals and non-EU citizens. Moreover, even if poverty statistics suggest improvements in recent years, the COVID-19 crisis is expected to have increased vulnerability and associated poverty risks. School closures and the switch to digital learning are also expected to have affected students coming from vulnerable backgrounds.

Digital transition and productivity

Czechia's R&D spending is on an upward trajectory but still below the EU-27 average. Number of patent applications has also been increasing but remains much lower compared to the EU-27 average. Therefore, performance on SDG 9 'Industry, innovation and infrastructure' is mixed and further progress would benefit Czechia's economic development. Similarly, investments have been lagging – accelerated investments in digital infrastructure would support the economic recovery and help reduce Czechia's gap with other countries in the coverage of very high-capacity networks. While basic digital and software skills are widespread, specific, and advanced digital skills are weaker, with clear shortages in the ICT specialist workforce.

Macroeconomic stability

Czechia's economy performed very well before the COVID-19 crisis, as reflected by good outcomes for SDG 8 'Decent work and economic growth'. Effective justice systems are essential for the investment climate and the sustainability of long-term growth, and a prerequisite for the fight against corruption. The perception of judicial independence among the general public and companies is average. Overall, 51% of both the general public and companies consider that the independence of the courts and judges in Czechia is either 'very good' or 'fairly good' in 2021 as reported in the 2021 EU Justice Scoreboard and the 2021 EU Rule of Law Report. Czechia can rely on strong institutions, reflected in its relatively high score for SDG 16 'Peace, Justice and strong institutions'. While Czechia performed very well on employment, certain disadvantaged groups could be better integrated in the labour market. Despite its slight decline, the gender pay gap remains among the highest in Europe.

3. OBJECTIVES, STRUCTURE AND GOVERNANCE OF THE PLAN

3.1. Overall strategy of the plan

The recovery and resilience plan of Czechia is a comprehensive response to the consequences of the COVID-19 crisis, targeting the main challenges identified and the systemic weaknesses of the Czech economy. It builds on Czechia's global development vision "Strategic Framework 2030" based on the following pillars:

(1) promoting entrepreneurship and innovation;

(2) implementing growth-enhancing measures by focusing on research, development and innovation and strengthening infrastructure resilience;

(3) increasing the efficiency of the use of natural resources and preventing the damage caused by the consumption of natural resources and the production of pollutants.

The Czech RRP comprises 26 components in six areas: digital transformation, physical infrastructure and green transition, education and labour market, institutions, regulation and business support, research, development and innovation, health and resilience of the population.

Czechia requests RRF funding of almost CZK 180 billion, corresponding to EUR 7.036 billion, which is very close to the maximum financial contribution of EUR 7.07 billion. The plan also includes measures worth CZK 11.3 billion (EUR 0.44 billion) to be funded from national sources. The plan envisages forward-looking measures facilitating the digital transformation and green transition of the Czech economy. The plan puts forward ambitious measures for the digital transformation of the Czech economy taking a comprehensive approach, which contributes to the development of the national layer of the European digital ecosystem. Such measures include the expansion of eGovernment and eHealth services, the improvement of very high capacity and 5G networks, digital innovation, digital skills, digital finance, and the digitalisation of industry. The plan aims at increasing the share of sustainable modes of transport, increasing energy saving and reducing the emission of greenhouse gases while contributing to climate mitigation and adaptation objectives, to the preservation and restoration of nature and to the implementation of circular economy solutions. Investments in renewable energy sources, modernisation of district heating distribution networks, replacement of coal-fired boilers and the improvement of energy efficiency of residential and

public buildings are expected to help Czechia achieve its 2030 energy and climate objectives and support its transition to a circular economy.

The plan coherently addresses several identified weaknesses of the economy, notably the industry's exposure to the challenges posed by automation and the green transition, the low level of R&D performance and innovation, skill mismatch, low labour market participation of women and the low-skilled and inefficient public administration. Reinforced support of schools with a higher share of pupils with weak socio-economic background and IT equipment for disadvantaged pupils and students shall help address inequalities in education and training. Increasing childcare capacities shall foster labour market participation of women. Healthcare recommendations are addressed through reinforced cancer prevention and rehabilitation care, development of an eHealth portal, which is expected to foster integrated care practices, and support to education in healthcare. Further complementary actions include measures to improve long-term care.

These investment plans will be supported by a key reform of the procedure for granting construction permits, including digitalisation of the process, significantly reducing the length of the process. Both the eGovernment and anti-corruption measures are set to improve the business environment even further. Reforms of the judiciary should improve the efficiency and transparency in the areas of courts, judges, prosecutors and bailiffs.

Table 3. Components and associated costs *(only those financed from the RRF)*

Number	Component Name	Cost EUR (million)
Digital transformation		
1	1.1 Digital services for citizens and businesses	112
2	1.2 Digital government systems	277
3	1.3 Digital high-capacity networks	227
4	1.4 Digital economy and society, innovative start-ups and new technologies	224
5	1.5 Digital transformation of enterprises	196
6	1.6 Acceleration and digitalization of building permit process	57
Physical infrastructure and green transition		
7	2.1 Sustainable and safe transport	943
8	2.2 Reduction of energy consumption in the public sector	325
9	2.3 Transition to cleaner energy sources	262
10	2.4 Developing clean mobility	192
11	2.5 Building renovation and air protection	632

Number	Component Name	Cost EUR (million)
12	2.6 Nature protection and climate change adaptation	542
13	2.7 Circular economy and recycling and industrial water	141
14	2.8 Brownfields	131
15	2.9 Promotion of biodiversity and drought issues	117
Education and labour market		
16	3.1 Innovation in education in the context of digitalisation	191
17	3.2 Adaptation of the capacity and orientation of school programmes	517
18	3.3 Modernisation of employment services and labour market development	886
Institutions, regulation and business support		
19	4.2 New quasi-equity instruments to support entrepreneurship	39
20	4.3 Anti-corruption measures	
21	4.4 Enhancing the efficiency of the public administration	1
22	4.5 Developing the cultural and creative sectors	214
Research, development and innovation		
23	5.1 Excellent R&D in priority areas of public interest in health care	196
24	5.2 Support for R&D in companies and the introduction of innovations into business practice	126
Health and resilience of population		
25	6.1 Increasing health system resilience	153
26	6.2 National plan to strengthen oncological prevention and care	335
	TOTAL	7036

3.2. Implementation aspects of the plan

Consistency with other programmes

The National Energy and Climate Plan (NECP) serves as both an analytical basis and a reference framework for the proposed RRP reforms and investments. The Czech RRP explains how the green components (2.2, 2.3 and 2.5) are in line and contribute to the objectives of the NECP. The RRP mirrors the strong emphasis of the NECP on reducing greenhouse gas emissions, especially in the transport sector, enhancing energy efficiency

measures, increasing the use of the renewable energy sources and complements these by measures fostering climate adaptation through increasing the resilience of forests against climate change and enhancing the water retention of forests. The RRP measures are designed to contribute to ambitious targets to achieve carbon neutrality in the EU by 2050 and to the objective of reducing GHG emissions by 2030 by 30% compared to 2005. According to the NECP, the emission intensity of GDP in the Czech Republic is above EU average, due to the higher share of industry in the GDP and the higher emission intensity of transport. In response, the transport components of the RRP aim at investment in electric transport and smart mobility in both urban and rural areas. The NECP priorities of achieving an optimal energy mix and promoting the use of Renewable Energy Sources (RES) are reflected in the RRP RES component 2.3, which aims at lowering the level of coal combustion for heat and electricity production by increasing the efficiency of district heating distribution and reducing greenhouse gas emissions and pollutants. To achieve energy efficiency targets, the NECP emphasises the need to renovate the national stock of residential and non-residential buildings, both public and private, which is in line with the RRP components pursuing the objective of at least 30% of the primary energy savings, and financing large-scale investments aimed at tackling the low levels of energy efficiency of buildings. Based on a recent JRC study across various European cities, a renovation rate of 3% in the residential sector is needed for reductions in heating and cooling energy use of up to 32.5% by 2030. [9]

The RRP is designed to be complementary to the European Structural and Investment Funds in the programming period (2014-2020) as well as to the Cohesion policy funds in the programming period (2021-2027). As the Partnership Agreement (PA) has not been finalised, the RRP explains main synergies at the strategic level (between priority areas of the Cohesion Policy funding and RRP components), which are then elaborated in individual components. A well elaborated overview table of complementarities, based on available information, is included in the RRP Annex. The RRP recognises important synergies with the Cohesion policy and stresses that complementarities and potential overlaps will be systematically and continuously assessed at different levels of the implementation (e.g. strategic, programme and project levels) including through a dedicated mechanism to avoid "double funding"). When prioritising investment for the RRF funding, the following criteria were used: i) meeting the RRF criteria, in particular on the green and digital targets, ii) timing of the measures, iii) geographical and thematic scope of the projects.

In view of the phase-out of lignite and black coal in the Northwest Bohemia and Moravia-Silesia, Czechia will adopt a territorial Just Transition Plan (JTP) to ensure a just transition to those structurally disadvantaged regions. Support from the Just Transition Mechanism and the Cohesion policy funds will be complemented by several components under the RRP, focused notably on building renovation, replacement of household boilers, renewable energy sources, sustainable transport and mobility, climate adaptation, rehabilitation of industrial land, digitisation of SMEs and RDI supporting

[9] D.A. Pohoryles, C. Maduta, D.A. Bournas, L.A. Kouris. Energy performance of existing residential buildings in Europe: a novel approach combining energy with seismic retrofitting. Energy Build., 223 (2020), 10.1016/j.enbuild.2020.110024

economic diversification, digital infrastructure, pre-school child facilities and social services infrastructure.

The RRP outlines its contribution to the Youth Guarantee initiative. The highest contribution to youth employment is provided by the education and labour market components. Component 3.1 will support the necessary competences and skills of young people so that they are able to respond to the challenges linked to twin transition. Reforms and investments under component 3.2 will create a supportive ecosystem to support youth employment by better preparing the universities for distance learning. Reforms and investments under both components will reinforce support to schools with a higher share of pupils with weak socio-economic background, and IT equipment for disadvantaged pupils and students shall help address inequalities in education. Increasing childcare capacities shall foster labour market participation of women.

National arrangements for the implementation of the plan

To ensure effective implementation, a dedicated RRP implementation structure was introduced, which will be supervised by the Managing Council of the national recovery and resilience plan. The implementation structure is composed of the Delivery Unit (DU) which is the Department of Coordination of the National Recovery Plan at the Ministry of Industry and Trade, tasked with the main implementation and coordination responsibilities, Component Owners (individual ministries responsible for implementation, 11 in total), intermediaries and beneficiaries. Tasks and competences are detailed in a specific Government resolution No 467 on the RRP, which was adopted by the Czech Government on 17 May 2021. The Ministry of Finance will carry out the function of the audit body being responsible for auditing the implementation of the plan. Administrative capacity will gradually increase in the second half of 2021 mainly by strengthening the existing structures.

Gender equality and equal opportunities for all

The RRP contains a series of measures that are expected to address the country's challenges in the area of gender equality and equal opportunities for all. The proposed measures are concentrated under pillar 3 (Education and Employment components). As regards gender equality, the RRP foresees to increase labour market participation of women with small children through ample investment in facilities for children below the age of three and a legislative amendment to ensure sustainable financing of low-age childcare and its adequate coverage in the regions. A legislative reform is foreseen to better target active labour market policies at the most vulnerable groups. The part of the plan addressing inequalities in education includes reinforced support of schools with a high proportion of children from disadvantaged socio-economic backgrounds, training and mentoring of teachers dealing with heterogeneous groups of pupils, and additional tutoring for children at risk of failure due to the prolonged school lockdown. The plan also envisages investment in digital equipment of schools to ensure access to learning for disadvantaged pupils and students. The situation and needs of people with disabilities are addressed in several parts of the plan, including in relation to the new construction code, renovation of buildings and their improved accessibility, digitalisation, eHealth and social care. The challenges faced by older people are also addressed, in particular through improving the quality and accessibility of the long-term care, social and health systems. Measures addressing the situation of Roma in

Czechia are largely absent from the plan, except for component 3.3 (employment services and labour market development) despite the fact that EU Strategic Framework for Roma equality, inclusion and participation identifies Czechia as one of those Member States, which are encouraged to ensure that the available funding effectively reaches the Roma and invited to be ambitious in terms of promoting the socio-economic integration of marginalised communities such as the Roma.

Stakeholder consultation

The Czech authorities engaged in a wide range of consultation activities in the preparatory phase of the RRP. The consultation was heavily affected by the second wave of COVID-19 pandemic and largely organised online (virtual meetings or written comments). The Ministry of Industry and Trade organised a set of round tables in November and December 2020 on the different pillars of the plan, involving the social partners and local government representatives. The draft RRP was also discussed in the Government Council for Sustainable Development or the Science, Research and Innovation Council. The Czech RRP was subject to a formal consultation in April 2021, allowing for comments and suggestions by a variety of relevant stakeholders, including the social partners. Several debates for the general public were also organised. Social partners, local government representatives and NGOs claim they could be even more consulted on the preparation of the RRP.

Most comments in the consultation process were related to digitalisation, support to the cultural sectors, revitalisation of brownfields, cycling infrastructure or climate protection measures. Several comments from the public and stakeholders have been incorporated into the plan's measures during its preparatory phase. This included for instance increasing the allocations for measures supporting digital transformation of enterprises or cultural sectors and strengthening the gender equality dimension in some components of the Plan, following the comments of the Human Rights Envoy.

During the implementation of the RRP, an active consultation and involvement of social partners and key stakeholders will be ensured through their membership in the Committee of the RRP, which was set up as a platform, created primarily for the cooperation of all relevant actors involved in the implementation of the plan. The Committee will be responsible among others for monitoring and supervising the achievement of progress, i.e. meeting the milestones and targets of the individual components, for publicity activities, for assessing the reports on the implementation. All members of the Committee shall be involved in building and developing partnerships, communication platforms and cooperation with other stakeholders important for the implementation of the RRP.

Implementation and digital security self-assessment

Czechia presented a preliminary security self-assessment of investments in digital capacities funded by the Recovery and Resilience Facility. Existing cyber security measures and effective tools will be used to defend critical infrastructure and modern technologies with security applications. In component 1.3 the Czech plan makes reference to the EU toolbox for the Cybersecurity of 5G networks. Implementation of measures under

components 1.1 and 1.2 (Digital public services and administration system), 1.3 (high capacity networks), 1.4 (digital economy and society) and 1.5 (digital transformation of enterprises) will support the building of Europe's strategic autonomy in the field of information and communication systems and digital services, which is in line with the priority of strengthening the EU's digital sovereignty. Strategic measures mentioned in the security self-assessment would need to be closely monitored during the implementation of the plan. The Technical Support Instrument (TSI) provides expertise in building capacities to implement the Plan in a number of areas covered by the plan such as digitalisation of government, smart and intelligent mobility, digital infrastructure and public infrastructure investments, as well as for the overall implementation of the plan. Strategic measures mentioned in the security self-assessment would need to be closely monitored during the implementation of the plan.

Cross-border and multi-country projects

The RRP support of cross-border projects is relevant. It includes participation of Czechia in 5G networks and the application of 5G-ecosystems across the Member States. It contributes to strengthening the network of European Digital Innovation Hubs, creates a new European AI excellence centre, it will invest in Quantum Communication Infrastructure and it will support the European Blockchain Service Infrastructure. It also includes a direct support programme for the investments to enterprises, including SMEs, through specific calls for projects selected for the potential IPCEI on Microelectronics and Connectivity, particularly in the area of microprocessors.

Communication strategy

The RRP broadly outlines the Czech communication plans. The objectives of the communication strategy are in line with the RRF Regulation and aim to raise awareness about the RRP's contribution to the Czech and European recovery and to the twin transition. The described communication strategy objective is to ensure awareness raising, of the financial contributions from the RRF, as well as ensuring effective communication of benefits to the general public and other target groups. The communication strategy is a live document, which will be updated and refined annually by detailed plans, following the state of play of the achievement of milestones and targets across all activities. The annual communication plans will include monitoring progress in the year, implementation deadlines and allocations for the activities/projects. The basic principles applied in the field of publicity will be Transparency and openness; "Effectiveness, efficiency, economy; Neutrality and avoidance of political influence; Responsibility, honesty." There is no further specification of these actions.

Czechia plans to target the general and professional public. Czechia plans to use the following communication channels: Websites and social networks; Interviews in print and radio media, and online publications, Public seminars/webinars representing NPOs; NPO media campaign; and press releases. It is essential that the described communication plan be fully developed and implemented. Coordination between EU and national authorities, should be pursued to maximise the impact and effectiveness of communications.

State aid

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 TFEU[10]. 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 Czechia in the RRP cannot be deemed a state aid notification. In as far as Czechia considers that a specific measure contained in the RRP entails de minimis aid or aid exempted from the notification requirement, it is the responsibility of Czechia to ensure full compliance with the applicable rules.

4. SUMMARY OF THE ASSESSMENT OF THE PLAN

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

The Czech RPP aims at a comprehensive and balanced response to the consequences of the pandemic crisis, while tackling the main systemic socio-economic challenges (as detailed in section 4.3 of this document). As such, it makes an explicit reference to the six fundamental pillars of the Recovery and Resilience Facility pursuant to Article 3 of the Recovery and Resilience Facility Regulation. It presents a global vision of an innovative economy, supporting economic growth through green and digital transitions. The overarching objective of the plan is to re-launch sustainable growth and increase the quality of life in Czechia. The focus is on five key public policy areas: green economy, education, research and innovation, health, public administration with digitalization.

[10] Commission Regulation 651/2014, OJ L 187, 26.6.2014, p. 1

Table 4: Coverage of the six pillars of the Facility by Czechia's RRP components

	Green transition	Digital transformation	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, economic, social and institutional resilience	Policies for the next generation
1.1 Digital services for citizens and businesses		●	○	○	●	○
1.2 Digital public administration systems		●	○	○	●	○
1.3 High-capacity digital networks		●	○	○	○	
1.4 Digital economy and society, innovative start-ups and new technologies		●	●	○		
1.5 Digital transformation of enterprises		●	●			
1.6 Acceleration and digitalization of the building process		●		○	○	
2.1 Sustainable and safe transport	●		○	○		
2.2 Reduction energy consumption in the public sector	●		○			
2.3 Transition to cleaner energy sources	●		●	○		
2.4 Clean mobility	○		●			
2.5 Building renovation and air	●		○	○		○

	Green transition	Digital transformation	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, economic, social and institutional resilience	Policies for the next generation
protection						
2.6 Nature protection and adaptation to climate change	○		○	○		
2.7 Circular economy, recycling & industrial water	●		●			
2.8 Brownfields revitalisation	●		●	○		
2.9 Promotion of biodiversity and fight against drought	○		○			
3.1 Innovation in education in the context of digitalisation		●	●	○		●
3.2 Adaptation of school programmes		○	●	●		●
3.3 Modernisation of employment services and labour market development			●	●	○	●
4.2 New quasi-equity instruments to support entrepreneurship and development of the ČMZRB as a national devel. bank	●		●			
4.3 Anti-corruption					●	

	Green transition	Digital transformation	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, economic, social and institutional resilience	Policies for the next generation
reforms						
4.4 Enhancing the efficiency of public administration					●	
4.5 Development of the cultural and creative sectors		○	●	○	○	
5.1 Excellent R&D in the health sector			●		●	
5.2 Support for R&D in companies and the introduction of innovations into business practice			●			●
6.1 Increasing resilience of the health system				○	●	
6.2 National plan to strengthen oncological prevention and care				○	●	

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

Green transition

The plan provides a comprehensive overview of challenges related to climate and environment and outlines the contribution of reforms and investments to achieving the EU's carbon neutrality target by 2050. Czechia is a highly industrialised economy, with energy and industrial processes contributing to overall greenhouse gas emissions of 81% (of which 96% is related to the combustion of fuels). Czechia ranks among the Member States with the highest average air concentrations of dust particles in the EU, resulting largely from aging industrial technologies and burning of solid fuels in households. The plan also

recognizes the need for strengthening of ecosystems amid the deteriorating climate conditions.

Given the magnitude of green challenges in Czechia, the share of 41.6% of the allocation attributed to climate-related actions appears only partially satisfactory. The plan aims to support the transition to a circular economy in Czechia. This shall be achieved through measures preventing waste, increasing recycling infrastructure, reducing secondary raw material wastage, increasing the share of recycled materials in products, and increasing the raw material security of Czechia through the continuous and uninterrupted availability of raw materials. Moreover, the component focuses on sustainable water management, including measures aimed at saving and recycling water and optimising the use of water in businesses. The transition to the circular economy shall help increase the resilience of Czechia against both environmental and economic threats.

The plan aims at increasing energy efficiency, reducing energy consumption and a smoother transition to cleaner energy sources in the household sector. This entails the energy renovation of buildings, including the construction of new buildings, the use of renewable material in buildings and the replacement of heating sources into solid predominantly fossil fuels with low-emission sources and emission-free sources in the residential sector.

The strategic planning of reforms and substantial investments shall contribute to greening of transport. Transport is one of the sectors with the highest emissions growth in Czechia. The plan aims to contribute to the digitalisation of transport, electro-mobility in rail transport, increasing the share of rail transport in freight and passenger transport, increasing the importance of active mobility in cities, improving traffic safety, and reducing the impact of traffic on the environment and public health. The issue of alternative propulsion in road transport and urban bus transport is also addressed. These new measures are expected to significantly contribute to growth and jobs in CZ and the EU, in particular due to the focus on investments in rail and road infrastructure. The complementarity of the rail infrastructure investment projects with the TEN-T network could further strengthen EU-wide green growth. Expanded and upgraded railway infrastructure will enhance the resilience of transport systems, with wider beneficial impacts for other EU MS in terms of reduced vulnerabilities of logistic chains, as seen during the pandemic.

The recovery plan shall contribute to the long-term resilience of ecosystems to climate change. A number of environmental measures aim at creating a framework for more efficient management of watercourses. The promotion of natural habitats shall ensure resilient forest ecosystems, contributing *inter alia* to greater biodiversity and climate change mitigation. These measures aim at making life more attractive in villages and effectively contributing to preventing the depopulation of the Czech countryside.

Digital transformation

The plan's diagnosis of Czechia's challenges in the area of digital transformation is relevant and accurate. Czechia particularly lags behind in terms of digitalisation of public services, standing close to the end of EU Member States' ranking in this area. The plan also rightly identifies the need for developing the digital skills of citizens, strengthening connectivity and creating an innovative environment.

The Czech RRP assigns to digital challenges 22.1% of the overall RRF allocation. The outlined actions particularly aim at supporting small and medium-sized enterprises (SMEs) by improving eGovernment, focusing investment on digital transformation, in particular on high-capacity digital infrastructure, 5G and technologies, on clean and efficient production, ensuring access to finance for innovative businesses, notably in early (pre-seed and seed) stages, and improving public-private R&D cooperation in selected priority areas (e.g. aeronautics, culture). The plan focuses on completing the digitalisation of public administration, which started with the approval of the Digital Czechia strategy, enhancing on cybersecurity and resilience in particular in the health sector, which has already proven to be crucial before the COVID-19 outbreak.

The reforms and investments are rightly targeting the improvements in digital skills and expanding the opportunities for learning. Increasing digital skills is perceived as a key prerequisite for digitalising the economy. The plan aims at reforming the education and training system to strengthen digital and information literacy, and IT skills. This shall be achieved by revising the curricula for primary and secondary education in order to reinforce IT education, adapt it to the latest trends and foster digital skills across the educational areas, promote digital skills of teachers and invest in digital equipment in schools. The plan also aims at addressing the digital divide, exacerbated by the prolonged school lockdown, by setting up a fund for mobile digital devices at the disposal of disadvantaged pupils and students. The ultimate objective of the component is to adapt education and training to the changing needs of the labour market, address the lack of digital experts and advanced digital skills across the labour force by supporting new appropriate university programmes, and ensure long-term employability.

Digital investments are expected to contribute to ambitions to modernise Czechia nearly across all components of the RRP. Supporting the digitalisation of industry, the use of technologies and the emergence of an interconnected and long-term sustainable national layer of the European digital ecosystem are expected to support the digital transition of particularly small and medium-size enterprises through digital technologies. Increased digitalisation in construction proceedings is set to improve the business and investment climate in Czechia. Digitalisation of transport, electro-mobility in rail transport, increasing the share of rail transport in freight and passenger transport should lead to improved traffic safety and reduced impact of traffic on the environment and public health. The proposed reform of the Czech education system should strengthen digital and information literacy and reinforce IT education, adapting it to the latest trends and foster digital skills across the educational areas. It shall also promote digital skills of teachers and improve the level of digital equipment in schools. The plan also aims at addressing the digital divide, exacerbated by the prolonged school lockdown, by setting up a fund for mobile digital devices at the disposal of disadvantaged pupils and students. Transformation of universities to adapt to new forms of learning and changing needs of the labour market is expected to facilitate transition to new, mainly digital forms of learning. This is addressed through investment in digital equipment and technologies and training of university staff in digital skills and modern teaching methods. The plan is set to also stimulate a digital shift in the cultural and creative sectors and its integration within the innovation ecosystem.

Smart, sustainable and inclusive growth

The plan presents the targeted policy actions across all relevant policy areas related to smart, sustainable and inclusive growth. Smart growth will be promoted particularly through actions targeting research and innovation and improvements in educational outcomes through curricular reform and enhanced teachers' education. The plan aims at strengthening the inclusion through addressing the negative impact of children's socio-economic background on educational outcomes. As regards the sustainable growth, the plan's key investment initiatives should *inter alia* contribute to a cleaner energy mix, industrial decarbonisation and greening of public transport.

The plan reacts to the deterioration of the labour market in view of COVID-19 crisis. Due to the contraction in economic growth and the end of government support schemes, the unemployment rate is expected to increase to 3.8% in 2021. While the overall unemployment rate remains low, job losses are expected to occur mainly in selected service sectors, with a large share of low-skilled workforce. The post-pandemic recovery and job creation should be particularly supported by rolling out investments into green construction sector activities (both building and renovation), renewables, nature protection, sustainable transport, and digital infrastructure. The modernisation of hospitals and clinical processes contribute to attractiveness of jobs in the health sector.

The reform and investments are expected to contribute to strengthening competitiveness through research and innovation. The plan rightly identifies the productivity-related challenges for Czechia and the need for innovation-driven growth focused notably on Smart specialisation priority areas, while aiming at closing the gap vis-à-vis the EU in terms of average level of living standard. Delivering a higher quality of the public science base, promoting academia-business linkages and enhancing commercialisation of research results and knowledge and technology transfer is set to kick-start innovation and make businesses more competitive. Additionally, the financial and non-financial support to innovative enterprises, especially SMEs, and help with internationalisation of domestic firms as well as research actors shall facilitate further economic growth and competitiveness. The decarbonisation investments shall strengthen the competitiveness of the industrial sector, through supporting the inevitable process of green transition.

The reforms are designed to also contribute to a well-functioning and more resilient Single Market with strong SMEs. The SMEs are set to particularly benefit from a strong demand impulse triggered by investments leading to internal sources of growth and fostering innovation, as well as from a direct support to the business sector. On the basis of the Digital Czechia Strategy, the Innovation Strategy 2020-2030 and the National AI Strategy, Czechia plans to create a connected and sustainable digital ecosystem through digital transformation of enterprises. This ecosystem should encompass new and emerging technologies such as artificial intelligence, high performance computing, cybersecurity or cloud services, ensuring that all actors in the system interact comprehensively and offer them proactively vis-à-vis other actors in order to meet the needs of the market.

Social and territorial cohesion

The plan recognises the significant economic and social disparities within Czechia. The plan mainly reflects the uneven quality of the education system in several Czech regions and related conditions for upskilling and reskilling. Quality education and the development of human capital are prerequisites for economic and social development. Advanced

digitalisation and the associated transformation of the education system aims at increasing the share of jobs in higher value-added sectors and, conversely, reducing the share of jobs in the secondary sector of the economy, especially in heavy industry.

The plan clearly sets out that social and territorial cohesion shall be also supported from other EU sources than the RRF, **notably from the Cohesion Policy funds.** The authorities provide consistent references to other types of EU funding for a number of important policy areas. Such examples outside the scope of the plan include, for instance, the rolling out the broadband infrastructure (European Regional Development Fund), support to greening of the heat and power sector (Modernisation Fund) and transition of the coal regions, such as the Northwest Bohemia and Moravia-Silesia regions (Just Transition Fund).

The plan addresses the cohesion challenges primarily through reforms and investments in education and training, health and digitalisation. In education, the attention is given to supply of quality education and inclusiveness of the system, in view of pending health and social inequalities. The acquisition of digital equipment for schools across Czechia is expected to open the opportunities for pupils from poorer regions and disadvantaged socio-economic backgrounds. The optimization and infrastructure investments into the hospital network is set to reduce the regional disparities and improve the access to quality healthcare. The expansion of digital services and high-speed broadband shall boost possibilities for distance learning and teleworking across Czechia, thus contributing to reducing regional and social disparities.

Health, and economic, social and institutional resilience

The plan rightly identifies the significant challenges for the Czech health system on the background of pandemic situation. The plan aims at strengthening the resilience of the health system by investing in healthcare infrastructure and improving the education of health workers in acute care. With respect to healthcare infrastructure, the objective is to increase the availability and quality of rehabilitation care for patients in critical situations (post-acute care episodes), which proved insufficient during the pandemic. More in general, rehabilitation care capacity in Czechia is below that in the rest of the EU. Also, the component aims at addressing the lack of highly specialised diagnosis tools and treatment of serious cardiovascular diseases, including transplant medicine. With respect to the education of healthcare personnel, systemic measures and investment are foreseen to tackle the growing shortage of healthcare workers. The latter complement measures previously initiated in Czechia with more direct relevance to the nursing profession. The Plan also aims at securing excellent research in selected health areas (e.g. infectious diseases and virology, cancer, metabolic diseases, cardiovascular diseases, neuroscience and socio-scientific research studying the socio-economic impacts of systemic health risks): the establishment of national research authorities that shall ensure better overall coordination and reduce fragmentation in the priority areas will support further the resilience of the country.

The plan intends to overcome educational gaps caused by the pandemics through investments into digitalization and the knowledge economy. The proposed measures target the digitalization of primary and secondary schools, particularly through improving the digital skills of pupils and teaching staff. The investments shall allow for support to pupils and appropriate learning also during the pandemic restrictions. The reforms of tertiary education are designed to enable universities to adapt faster to changing economic and social

developments, as well as to pandemic situations. The innovative transformation of companies shall contribute to adjustment of Czech industry to challenges of the post-pandemic economy. A new national strategy for the development of digital skills is set to support adult learning, helping them to acquire new skills amid the progressing digitalization of the society.

The green investments should contribute to Czechia's strategic autonomy and strengthen the resilience in view of external shocks. The increasing share of renewables in energy mix and energy efficiency investments are expected to reduce the share of domestic lignite or hard coal burnt or imported fossil fuels. The support for cleaner energy sources under the Czech plan is set to contribute to the diversification of the energy mix and therefore increases energy security.

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

The plan identifies the main socio-economic challenges for the next generation. A large share of children has only a limited access to childcare education. To improve labour market dynamics and working conditions, the plan puts forward targeted support for the digitalisation of schools, including support for teachers' skills and individualised actions for vulnerable groups to overcome the digital divide. Actions to foster equal opportunities and access to the labour market include an amendment of the Employment Act to strengthen active labour market policies targeted at vulnerable groups.

The Czech authorities plan to tackle the educational challenges through a dedicated system reform and reinforced support to disadvantaged schools and pupils. The skills of teaching staff should improve through incentives to pursue lifelong professional development and support programmes to better prepare them to deal with heterogeneous groups. The changes in the support system for pupils with special educational needs are expected to enable all children to develop their full educational potential. The planned investments and reforms shall improve the digital skills of young people as well as to increase the awareness on the effects of climate change and technological transformation of the economy.

Taking into consideration all reforms and investments envisaged by Czechia, its recovery and resilience 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 Czechia 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

Czechia's Recovery Plan addresses a significant subset of the structural challenges identified in the country-specific recommendations (CSRs) of 2019 and 2020. Naturally, the degree to which the Plan's different components target — and can potentially resolve — the underlying policy challenges varies. This is not only because some components of the Plan carry a greater importance in terms of financial investment and stringency of accompanying reforms, but also because the magnitude and severity of the initial challenge as identified by CSRs differs. Chapter 1 of the plan presents a useful mapping of CSR challenges onto the plan's various sub-components. The table is both accurate and complete in terms of covering all CSRs as well as all relevant elements of the plan's components. The table thereby illustrates the significant degree of CSR coverage achieved by Czechia's RRP,

and this table serves as a useful cross-reference for the CSR assessment presented in the section at hand.

Although addressing most other of Czechia's CSRs on structural issues very well, the plan offers a mixed response to fiscal policy and public finances challenges. Czechia has achieved substantial progress in taking fiscal measures designed to support employment and incomes during the pandemic and providing liquidity support to companies. However, these measures do not fall within the scope of the recovery plan properly and, due to their temporary nature, do not address Czechia's long-term fiscal challenges, which primarily stem from healthcare and pension spending. Regarding healthcare, the plan's sixth pillar is devoted to healthcare capacity and resilience and is ostensibly influenced by Czechia's experience during the pandemic crisis, which left its healthcare system struggling to cope with the vast caseload. The main objective of component 6.1. is to increase specialist and emergency treatment, as further described below. While this does not *per se* improve the long-term sustainability of the healthcare system, it could be argued that the RRF financing of a hitherto unmet need for greater healthcare capacity prevents unanticipated healthcare spending shocks further down the line. Furthermore, the preventive care initiatives included in component 6.2, especially those relating to cancer prevention, should be regarded as a medically sound and cost-effective way to prevent cancer progression and the associated large human and financial costs. Turning to the pension system, the plan restricts itself to only mentioning recent legislative and administrative changes regarding its pension system and does not present any measures specifically dedicated to the pension system.

The plan presents a comprehensive and forceful response to the challenges facing the healthcare sector. Czechia's recovery plan presents under component 6.1 a number of reforms and investments that primarily aim at increasing the treatment and response capacity of the healthcare system, including by investing in new rehabilitation and specialist treatment facilities. Reforms to the medical and care training system are designed to improve staff retention, skill levels and organisational practices in the area of knowledge and skill management for the healthcare sector. Component 6.1 further recalls Czechia's ongoing efforts to rationalise primary care provision through the primary care reform programme, which is likely to improve the cost-effectiveness of the healthcare system and stem long-term spending pressures. However, this is primarily supported through cohesion funding, and hence cannot be regarded as an integral part of the recovery plan. Component 6.2 presents a comprehensive cancer treatment initiative comprising large-scale investment as well as cancer prevention programmes that can respond to the country's specialist treatment needs as well as potentially establish it as a centre of international excellence in oncology. Nevertheless, attention will be to gauge possible effects on patient access as care centralization may entail longer traveling distances for selected patient groups and their relatives. Finally, components 1.1. and 1.2 jointly foresee the further development of an eHealth system that ensures broad coverage of providers and patients, also ensuring its interoperability, and application for prescriptions and diagnostic services.

Challenges related to employment and labour market participation are addressed. The plan dedicates component 3.3 to the modernisation of employment services and labour market development, which – at a total RRF funding volume of EUR 886 million – represents the second-largest component of the Czech plan. In view of the child-care related obstacles to employment of women, the plan targets in particular the upgrading of childcare facilities and

investments and reforms in the area of education and training and continuous vocational training, as well as an upgrade to the social services network. 370 existing childcare facilities are planned to be renovated or extended, and 435 new nurseries are planned to be constructed under the plan. This should meaningfully extend the capacity of the childcare system for children aged between 6 months and 3 years and should thereby increase opportunities for parents (typically women) to return to the active labour market earlier. Employment difficulties of disadvantaged groups and jobseekers are likely to be improved through the plan's intended development of a retraining and continuous professional training network, however a specific focus on NEETs is missing. This network will involve social partners and aims at expanding and coordinating better the supply of vocational and re-training courses, both through expended eligibility of participants and a better promotion of training courses with a particular focus on digital skills in the context of challenges posed by the transition to Industry 4.0. 130.000 people should be skilled and trained to gain competencies needed for digital transition.

The plan presents ambitious proposals in the area of education and training. Component 3.1 foresees a comprehensive curricula reform regarding digital skills and the upgrading of digital technology and equipment. In particular, teaching materials and training for IT and digital skills classes will be developed and made available to all schools, while the investment side of the component the aim is for at least 9260 schools to be equipped with basic and advanced digital technologies, and for mobile and distance learning technologies to be accessible to a large proportion of students. Component 3.2 envisages, among reforms to the distance learning, the renewal of study programmes and adaptation to new forms of learning in the higher education and training system; the improvement of teachers' skills and competences in working with heterogenous groups; as well as targeted support to disadvantaged schools and pupils. This should contribute to reducing educational inequalities and improve the quality and labour market relevance of the education and training system.

The plan represents a welcome response to the Czechia's challenges in the transport investment domain. Component 2.1 is entirely devoted to safe and sustainable transport and ranks as the largest individual components in the plan due to its heavy investment in an expanded, more interconnected, safer and an increasingly electrified rail network. While many of these investments are principally targeted at shifting freight traffic away from the road and onto the rail, the component also plans to invest into making urban mobility more environmentally friendly and safer, for instance by investing into cycle paths and barrier-free pedestrian walkways. Furthermore, component 2.4 foresees investments into environmentally friendly individual and public mobility. This includes the creation of around 4 700 charging points for electric vehicles, as well as the financing of around 4 500 alternative fuel vehicles for business. Given the congestion and air quality problems in the capital city Prague, the plan also includes the acquisition of a new fleet of electric buses and trams, which represents the single largest measure in the component.

The plan tackles the problem of poor digital infrastructure through wide-ranging reforms and investments. Digital infrastructure challenges are comprehensively addressed in component 1.3, which proposes significant investments into very high-capacity networks (VHCN) that allow expanded and faster internet connectivity for residents, entrepreneurs, public administrations, particularly in less developed or rural regions that stand in need of a better provision of digital services and business opportunities. Furthermore, the component

also foresees the development of 5G networks, particularly in rural areas, both through reforms and investment.

Czechia is envisaging far-reaching measures in support of the green transition and energy efficiency. Components 2.2, 2.3 and 2.5 all deal with challenges related to the transition to a low-carbon and energy-efficient society. Collectively, these components account for more than EUR 1,2 billion, thus making them a major building block of Czechia's RRP. Key measures include the renovation of public buildings in order to reduce their energy consumption, the promotion and funding of solar power generation, and the replacement of highly polluting and carbon-intensive domestic heating systems. Taken together, the energy savings and air quality improvements are likely to be of a significant scale, and the scale of the plan's measures in this respect indeed deserves the description of being 'focussed on energy transition' (as required by the 2019 CSR wording).

Czechia has been making preliminary progress in improving governance and anti-corruption aspects of its public administration. Concerning the adoption of pending anti-corruption measures, the plan dedicates component 4.3 to reforms aimed at preventing corruption. These include the adoption of the pending laws on lobbying and the protection of whistleblowers being in line with the related EU Directive, as well as awareness-raising campaigns, and legislative amendments aimed at defining more effective selection criteria for judges and a better regulation of their secondary activities. While no budgetary costs are attached to these reforms under the RRP, the reforms can be considered as contributing to addressing the anti-corruption challenges as set out in CSR1.

Investment-focused aspects of public administration and the business environment are likely to see a change for the better thanks to measures incorporated in the plan. Czechia was recommended to reduce the administrative burden on investment and promote more quality-based competition. In response the plan puts forward several measures under component 1.6 on digitalising the procedure for granting construction permits, as well as under component 4.1 on systemic support to public investment. The simplification, centralisation and digitalisation of the construction planning system as envisaged by measures under component 1.6 is estimated, according to assessments presented in Czechia's RRP, to shorten the average approval procedure by between 2 and 4 years. With this permitting procedure being a major factor in the commencement and expansion of business operations, and a frequently identified bottleneck to investment and entrepreneurship, the impact of successful implementation of these measures may be transformative while at the same time it has to be ensured that the public rights are ensured in line with the applicable EU legislation to balance different public interests. The plan further encompasses under component 4.1 measures aimed at building administrative capacity to aid the delivery of public investment projects, including those aimed at facilitating the twin transitions, as well as working towards establishing a set of public-private partnership (PPP) projects; the plan also notes the application of new selection methodologies in public procurement in order to better reflect quality (and green) criteria, as well as public procurement training courses for contractors and suppliers to promote the new public procurement standards.

Czechia's RRP includes links to the national strategic framework to foster research, development and innovation, including the cooperation between public and private entities. The research and innovation challenge facing Czechia is primarily tackled within the Innovation Strategy 2019-2030, which – although being updated regularly – fundamentally

predates the formulation of Czechia's RRP and the National Research, Development and Innovation Policy for the period 2021+ strategic framework. However, various research and innovation-relevant measures are presented within the plan itself. The most comprehensive and financially largest measures are to be found in Component 5.2, which proposes an innovation-focused funding system for research projects, and which (partly) relies on RRF funding and component 5.1, which aims to enable excellent research in selected health areas, and which fully relies on RRF funding. Component 5.2 specifically aims at increasing R&D outputs and their application in businesses, as well as encouraging cooperation between the private sector and research organisations, including international cooperation. Component 1.4 largely deals with digital innovation measures, offering financial support for innovative firms including pre-seed, seed and start-ups, as well as foreseeing specific support for strategic and future growth areas. Finally, component 4.5 presents a comprehensive support scheme for the severely hit cultural and creative sectors, which includes soft innovative services such as web design, products and services, graphic design or marketing strategies.

Czechia is planning an array of measures to meet the recommendation to make greater use of financial instruments to support SMEs. The Czech government made ample liquidity support available to companies – including many SMEs – during the acute phase of the crisis, which helped relieve the worst pressures on companies' cash flow and working capital. Under component 4.2, the plan proposes to broaden the scope of the ČMZRB Group as a national development bank by supporting Czech companies with the use of newly created quasi-equity instruments including for SMEs and innovative companies. Since these new financial products are typically structured as so-called 'mezzanine' instruments that rank below debt in a firm's capital structure and can therefore be useful to use in situations where fast-growing companies need to raise capital in a flexible manner or when successful companies are taken over by new owners. Given the somewhat underdeveloped capital market in Czechia and the wider region, the proposed expansion of the range of financial products available for Czech companies can be regarded as a market-completing initiative that corresponds well to the challenge originally identified in the policy recommendation to Czechia.

Extent of country-specific challenges and prospects for their resolution

Overall, when taking into account also parallel initiatives by the Czech government, including those funded through national and other EU facilities, only the long-term fiscal sustainability aspects are left under-addressed by measures detailed in the plan. Moreover, the plan's priorities appear to be well-balanced and sufficiently comprehensive to satisfactorily address a significant number of Czechia's country-specific recommendations.

Bearing in mind the persistence of Czechia's various structural challenges identified in the above CSRs, the plan appears to place broadly the right emphasis on the different reform and investment needs. Generally speaking, the (horizontal) challenge of ensuring a swift and smooth green and digital transition appears to be tackled with the necessary determination and arsenal of measures in Czechia's RRP. Long-standing challenges in the area of education, childcare, healthcare, as well as research, development and innovation also met with comprehensive measures suited to ensure a near-resolution of the most serious shortcomings. However, in case of research and innovation, it remains essential to enhance the effectiveness of the investments by comprehensive systemic reforms. While other crucial

challenges such as those related to Czechia's business environment and public administration are also targeted in the plan, the extent to which even a fully successful implementation of all corresponding components could satisfactorily address the underlying challenges is somewhat uncertain. The focus on enhancing the efficiency of the public administration by a better coordinated system for the integration of scientific evidence inside the administration is seen as a relevant contribution to addressing the complex challenges, including the green and digital transition, as well resilience to future complex issues. Genuine advances in the fight against corruption are undoubtedly within reach and are likely to be accelerated by the measures proposed in the Czech RRP but will further require a certain shift of societal attitudes and cultural and professional norms that may not be susceptible to official policy influence.

The plan represents a comprehensive and adequate response to Czechia's economic and social situation. The pandemic has left considerable scars on both the healthcare system, the labour market and the education sector, as well as on the wider economy. Czechia's challenges to ensure the twin green and digital transition in effect pre-date the pandemic and are adequately covered in the various components, but aspects thereof gain a particular importance in view of the post-Covid economic and social situation. For instance, the focus on digital skills and digital learning and working methods will help Czechia adapt to new work and education patterns that may persist post-Covid. Furthermore, infrastructure improvements in both transport and digital connectivity can help level out regional inequalities, the polarising effect of which has also been visible in economic and social developments during the crisis. Finally, measures to increase labour market participation and employment can help to reduce the scar on employment levels left by the crisis.

Czechia's economic growth potential is likely to be boosted in a sustainable manner through the measures contained in the plan. As section 4.3 in this Staff Working Document shows, both the direct demand effects from higher investment spending financed by the RRF, as well as the productivity-effects from such investments and reforms are likely to increase Czechia's growth potential on a sustained basis as presented in section 4.3 below.

Taking into consideration the reforms and investments envisaged by Czechia, its recovery and resilience plan is expected to contribute to effectively 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 recovery and resilience plan represents an adequate response to the economic and social situation of Czechia. This would warrant a rating of ***A*** *under the assessment criterion 2.2 in Annex V to the RRF Regulation.*

Table 5: Mapping of country challenges identified in 2019-20 country-specific recommendations and the 26 components of the Czech RRP

Country challenges (as identified in Section 2)	**CSRs (2019-2020)**	**C1.1**	**C1.2**	**C1.3**	**C1.4**	**C1.5**	**C1.6**	**C2.1**	**C2.2**	**C2.3**	**C2.4**	**C2.5**	**C2.6**	**C2.7**	**C2.8**	**C2.9**	**C3.1**	**C3.2**	**C3.3**	**C4.2**	**C4.3**	**C4.4**	**C4.5**	**C5.1**	**C5.2**	**C6.1**	**C6.2**
Fiscal sustainability																											
Fiscal policy and long-term sustainability of health and pensions systems	2019.1.1, 2020/	○	○																							○	○
Health care and long-term care: strengthen resilience of health system, staffing, care integration and eHealth	2020.1.2	●	●		○													○	○					○		●	●
Labour market and social policies																											
Foster employment of women and disadvantaged groups, incl. through childcare	2019.2.1, 2020.2.1																		●								

Country challenges (as identified in Section 2)	CSRs (2019-2020)	C1.1	C1.2	C1.3	C1.4	C1.5	C1.6	C2.1	C2.2	C2.3	C2.4	C2.5	C2.6	C2.7	C2.8	C2.9	C3.1	C3.2	C3.3	C4.2	C4.3	C4.4	C4.5	C5.1	C5.2	C6.1	C6.2
provision; active labour market policies																											
Quality and inclusiveness of education and training system, incl. digital skills	2019.2.2, 2020.2.2,																●	●	●				○				
Country challenges (as identified in Section 2)	**CSRs (2019-2020)**	**C1.1**	**C1.2**	**C1.3**	**C1.4**	**C1.5**	**C1.6**	**C2.1**	**C2.2**	**C2.3**	**C2.4**	**C2.5**	**C2.6**	**C2.7**	**C2.8**	**C2.9**	**C3.1**	**C3.2**	**C3.3**	**C4.2**	**C4.3**	**C4.4**	**C4.5**	**C5.1**	**C5.2**	**C6.1**	**C6.2**
Policies supporting investment in digital and green transition and in particular, in the following areas																											
a) Sustainable transport	2019.3.1, 2020.3.7							●			○																
b) High-capacity Digital infrastructure	2019.3.2, 2020.3.5			●																							

Country challenges (as identified in Section 2)	CSRs (2019-2020)	C1.1	C1.2	C1.3	C1.4	C1.5	C1.6	C2.1	C2.2	C2.3	C2.4	C2.5	C2.6	C2.7	C2.8	C2.9	C3.1	C3.2	C3.3	C4.2	C4.3	C4.4	C4.5	C5.1	C5.2	C6.1	C6.2
c) Low carbon transition and energy efficiency	2019.3.3, 2020.3.6								●	●		●		●	●												

Country challenges (as identified in Section 2)	**CSRs (2019-2020)**	**C1.1**	**C1.2**	**C1.3**	**C1.4**	**C1.5**	**C1.6**	**C2.1**	**C2.2**	**C2.3**	**C2.4**	**C2.5**	**C2.6**	**C2.7**	**C2.8**	**C2.9**	**C3.1**	**C3.2**	**C3.3**	**C4.2**	**C4.3**	**C4.4**	**C4.5**	**C5.1**	**C5.2**	**C6.1**	**C6.2**
Public administration and business environment																											
Adopt pending anti-corruption legislation	2019.1.2																				●						
Reduce administrative burden on investment and improve e-government	2019.3.4, 2020.3.2	●	●				●															●					
Support more quality-based competition in public procurement	2019.3.5						○																				
Broader functioning of economy																											
Remove barriers to a fully functioning innovation ecosystem and improve public	2019.3.6 2020.3.8				●	○																	○		●		

Country challenges (as identified in Section 2)	CSRs (2019-2020)	C1.1	C1.2	C1.3	C1.4	C1.5	C1.6	C2.1	C2.2	C2.3	C2.4	C2.5	C2.6	C2.7	C2.8	C2.9	C3.1	C3.2	C3.3	C4.2	C4.3	C4.4	C4.5	C5.1	C5.2	C6.1	C6.2
Public administration and business environment																											
private R&D cooperation																											
Front-load mature public investment projects and promote private investment	2020.3.3, 2020.3.4			●	○			●										○							○	○	○
Support SMEs through use of financial instruments and ensure access to finance for innovative firms	2020.3.1, 2020.3.8																			●							

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 implementation of the Czech recovery and resilience plan is expected to contribute significantly to economic growth and job creation in Czechia. RRF-funded public expenditures should provide a boost to aggregate demand in the short to medium term, improving the cyclical position of the Czech economy, and thereby mitigating the adverse economic effects of the COVID-19 crisis. In the long run, investments together with the planned structural reforms would help address the current growth challenges faced by Czechia. This is expected to facilitate the country's transition to a knowledge-based economic model, which is more focused on high value-added activities and remains competitive amid automation and digital change. Implementing the plan is therefore expected to raise potential output and to have a lasting impact on the economic performance of Czechia.

Non- repayable financial support from the RRF amounts to around 3.25% of pre-crisis GDP, which Czechia plans to spend mainly on public investments spread over 6 years between 2021 and 2026. These expenditures constitute a sizable fiscal stimulus, as a result of which Czech authorities estimate GDP to be 0.5% higher in the medium term relative to the counterfactual scenario without the RRF. This short to medium term boost to aggregate demand should speed up the recovery of the Czech economy from the COVID-19 crisis. The Commission's own estimates, which include spillover effects, are reported in Box 2.

The transmission channels of higher public investment spending to the broader economy are manifold. In addition to the direct effect of more public expenditures on GDP, there is also an indirect response of the economy via influencing private spending decisions, which will determine the size of the fiscal multiplier.[11] In the current environment of depressed demand, the usual effect of crowding out private expenditures via higher real interest rates is likely to be muted, given the expectations of continued monetary policy support in the euro area for the coming years. In addition, by expanding the capital stock of the economy, public investment can raise the productivity of the private sector, and thereby crowd in private investments.[12] Higher public spending raises incomes in general, while higher productivity also contributes to faster real wage growth, which can further support household consumption. This is even more so if households tend to consume a large fraction of their earnings, which bodes well for Czechia with household saving rates below the EU average. However, in the case of a highly open economy

[11] The fiscal multiplier gives the amount of increase in GDP induced by an additional euro of public spending.

[12] Moreover, the real exchange rate appreciation usually following an increase in government consumption is also mitigated in the case of public investments which expand supply capacities, thereby containing inflationary

like Czechia, these multiplier effects are likely to be attenuated, as some of the increase in aggregate spending will "leak out" via imports instead of being directed at domestically produced goods.

The plan contributes to potential output also by speeding up the recovery from the COVID-19 crisis, whereby it could prevent long-term scarring due to hysteresis effects, prolonged unemployment, and rising bankruptcies. Therefore, permanent economic damages from the pandemic could be mitigated. The ability to reach these objectives, however, is surrounded by considerable risks.

The Czech plan identifies areas in which Czechia still needs to catch up to ensure its convergence towards the euro area and sets out measures and reforms to address these issues. Technological and allocative inefficiency are among these areas. In the long run, structural reforms contained in the Czech RRP are expected to entail a GDP gain of at least 0.6% by 2040 according to the Czech authorities (0.4% according to the Commission), relative to the counterfactual scenario without RRF. But whether the measures will manage to improve these indicators to the assumed extent is highly uncertain. Nevertheless, the reforms certainly aim in the right direction of trying to address the weaknesses of Czechia's economy, as detailed in Section 2.2. of this document.

Box 2: Stylised NGEU impact simulations with QUEST – Czechia

Model simulations conducted by the Commission using the QUEST model show that the economic impact of the NGEU in Czechia could lead to an increase of GDP of between 0.8% and 1.2% by 2026.[13] After 20 years, GDP could be 0.4% higher. Spillovers account for an important part of such impact.

According to these simulations, this would translate into up to 18,000 additional jobs. Cross border (GDP) spillovers account for 0.3 pps in 2026, showing the value added of synchronised expenditure across Member States (line 2 in Table 6). Even in a scenario with a lower productivity of NGEU funds, it would still lead to a significant impact (line 3).[14]

Table 6: 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

pressures. The resulting more competitive real exchange rate is beneficial for the export sector as well, further raising the fiscal multiplier.

[13] RRF amounts to roughly 90% of NGEU, which also includes ReactEU, Horizon, InvestEU, JTF, Rural Development and RescEU.

[14] Technically, the low productivity scenario considers a significantly reduced output elasticity of public capital.

Baseline	0.3	0.9	1.0	1.1	1.1	1.2	0.9	0.6	0.6	0.6	0.4
of which spillover	-0.3	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1
Low productivity	0.2	0.6	0.7	0.7	0.7	0.8	0.5	0.2	0.2	0.2	0.1

This stylised 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 Czechia GDP by 12% in 20 years' time compared to 11% for the EU average.[15]

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

Czechia's significant automotive manufacturing is heavily exposed to challenges posed by automation and the green transition. By supporting the transition to electric technologies, and providing financial assistance for decarbonisation of industry, measures under the "Green economy" policy area of the plan contribute towards keeping the sector competitive. Encouraging R&D and innovation, improving the skills of the labour force and promoting digital technologies are also among the plan measures designed to help the sector keep high value-added jobs in an era of automation.

The plan aims to increase R&D spending and innovation by boosting the innovation capacity of domestic businesses, and at improving public-private cooperation within Czechia's innovation ecosystem. EU funds have contributed significantly to the development of research and innovation ecosystem in the past period and have helped to develop research infrastructures and R&I capacities in both the public and private sectors. Total R&D expenditure in Czechia has been growing for a long time and is close to the EU average in terms of GDP. Additional R&D investments are expected to contribute partly to resilience building and emergency preparedness of health research and partly to the implementation of some other European recommendations and initiatives. These include refurbishment and modernisation, upskilling, scientific education and management and internationalisation. Through R&D support the plan aims at boosting the innovation capacity of businesses, notably domestic SMEs, and at improving private-public cooperation within Czechia's innovation ecosystem.

[15] Varga, J, in 't Veld J. (2014), "The potential growth impact of structural reforms in the EU: a benchmarking exercise", European Economy Economic Papers no. 541.
http://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp541_en.pdf

The plan places an emphasis on improving human capital and raising the skill level of Czech citizens, an area where the country has significant weaknesses which prevent it from fulfilling its economic potential. Reforming the educational curriculum and strengthening teacher training could help the Czech pupils to improve their performance. Focus on digital education could lead to better availability of workers with advanced digitals skills necessary for the further transformation of the Czech economy. Measures aiming at supporting disadvantaged groups in the education system should increase equal opportunities and improve the skill composition of the Czech workforce. The plan also includes investments in upskilling and reskilling of the adult population, which all together should improve the skill levels of the Czech present and future workforce.

In addressing anti-corruption shortcomings in the decision-making process and the public administration, the RRP could also facilitate a more favourable business environment, which is more conducive to private investment and innovation. Broadening digital public services and lowering high regulatory barriers for entrepreneurs is expected to ease the administrative burden on businesses and enhance their competitiveness. A strengthened, legislative anti-corruption framework increasing transparency and a reform of the judiciary, would have a positive impact on business uncertainty. Such reforms would support potential growth due to a more efficient allocation of public resources as well as incentives for productivity growth in the private sector.

In summary, the reforms envisioned in the Czech plan can be expected to facilitate the country's transition to a new, more diversified economic model, based on a larger share of high value-added activities. A successful implementation of the RRP could raise domestic innovation, productivity, and maintain the competitiveness of the Czech economy, thereby contributing to potential growth.

Investment baseline

The public investments outlined in the plan are convincingly argued to be additional to what would have been the case in the absence of the RRF. This argument for macro-additionality is supported by analysis in the plan showing that baseline public investments, excluding those to be financed from the RRF, are forecast to be at least as high on average over the period of 2021-2026 as they were in 2017-2019. This makes it likely that, by coming on top of these investments, RRF funded spending truly contributes to economic growth and does not just replace otherwise planned nationally financed investments, being used only for public debt reduction. According to information supplied by the Czech authorities, nationally financed baseline public investments (excluding military spending) are expected to average over 42% higher in real terms between 2020 and 2026 compared to the three years preceding the pandemic. This corresponds to baseline investments increasing its similar share of GDP by 0.5 pps across the two time periods.

Prior to the pandemic the composition of public investments was dominated by spending on transport infrastructure. Funds from the RRF place more emphasis on investments in the areas of health (construction and renovation of hospitals), and education (digitalisation of schools, expansion of kindergarten capacities). More than a third of the funds is planned to go for

green economy measures. This includes sustainable transport investments and the promotion of renewable energy sources as well as measures aimed at industry decarbonisation and improving the energy efficiency of buildings. Compared to the pre-pandemic baseline, the proportional impact of RRF funds will be biggest in the areas of health and social protection (expansion of long-term care facilities), given their relatively low base value, while the rather high spending on transport infrastructure constitutes only a smaller percentage increase.

Strengthening social cohesion

The plan addresses several social and territorial challenges relevant for Czechia and is expected to contribute to the implementation of the European Pillar of Social Rights. The plan is targeted at areas where Czechia is lagging behind, namely: uneven education outcomes including advanced digital skills, skills shortages and inequalities in education and training, especially with regard to pupils with weak socio-economic backgrounds. The plan will address low labour market participation of women with small children, social needs of vulnerable in terms of easier access to health screening programmes and by increased capacities in long-term care and investment in social care infrastructure.

Green investments in transport, in increasing energy saving and reducing the emission of greenhouse gases and moving from fossil fuels to low-emission and zero-emission energy sources such as photovoltaic energy are expected to reduce air pollution and smog, improving public health outcomes. Moreover, replacing coal-fired boilers with low carbon solutions in the family houses, as integral part of complex building renovation, will help reduce the cost of green investment for the low-income groups and contribute to alleviating energy poverty. The investment in public transport networks is particularly relevant for structurally disadvantaged regions.

Reducing vulnerability and increasing resilience

While no macroeconomic imbalances have been identified, Czechia is a particularly open, manufacturing-centred economy vulnerable to potential supply chain shocks or technological disruptions. In line with the new industrial strategy of the EU, investment into research and innovation and into skills have the potential to help the country to better cope with technological disruptions and supply chain strategic dependencies, thus building economic resilience to accelerate changes, such as digitalisation and automation trends. These measures can also contribute to reducing Czechia's reliance on cost-competitive export-oriented production by building R&D capacities amid a particular lack of technological diffusion to domestic SMEs as well as fast-rising wages. The strong focus on the green transition should reduce Czechia's dependence on imported fossil fuels, cushioning the potential impact of supply or price shocks. This is achieved by measures to reduce energy consumption of buildings, and by moving towards more sustainable transport (such as the purchase of alternative fuels rolling stock, or the development of infrastructure for e-mobility) and to increasing the use of low-emission and zero-emission energy sources. An economic vulnerability that is also addressed is related to weaknesses in the construction sector. Swift house price growth amid complex building permit procedures calls for a reform of the construction act, which is addressed in the

plan by a reform of procedure for granting construction permits, including digitalisation of the process.

Czechia's plan includes a range of measures in health and education policy that can be expected to improve social resilience. The plan provides explanations on such links at the plan's level and by component. Education reforms and their particular focus on inclusiveness can be expected to contribute to social resilience, as e.g. providing more equal access to opportunities through education and training to disadvantaged groups. Investments and reforms aimed at improving long-term care, reinforcing cancer prevention and rehabilitation care, developing of an e-health portal and supporting education in healthcare will increase access to health services, also for particularly vulnerable group in society. Modernising and expanding integrated health and social services in compliance with the principles of deinstitutionalisation and independent living will improve access to quality and affordable long-term care.

Structural reforms, improved capacities and digitalisation efforts are set to strengthen institutional resilience. Here again, the plan provides explanations on such links at the plan's level and by component. A reformed and better equipped judiciary system will be able to better respond to the challenges stemming from the workload and better address the transparency requirements. Digitalisation efforts across institutions – especially in health and construction sectors – are set to improve efficiency and hence the ability to react swiftly and with sufficient resources to shocks.

Cohesion and convergence

The Czech plan aims to contribute to reducing social inequalities. Certain social groups are highly disadvantaged when it comes to labour market outcomes. The unemployment rate of low-skilled workers is among the highest in the EU, and this problem is particularly serious for low-skilled youth. A further challenge is high long-term unemployment for groups facing social exclusion, in particular marginalised Roma communities who face a higher risk of poverty. The gender employment gap negatively affects women. Regarding territorial disparities, some parts of Czechia tend to perform significantly worse than others, in terms of various interconnected labour market and social indicators, like the share of high skilled workers, long-term and youth unemployment, the share of population at risk of poverty, as well as disposable income.

However, the plan considers regional disparities only to a limited extent - improving the access to the labour market of some disadvantaged groups, through more inclusive education, more job opportunities and better health care services. For the latter services, attention is warranted that the centralisation of specialised services does not exacerbate patient access challenges from a regional cohesion perspective. The primary channel in the RRP for reducing social inequalities is to enhance access to quality education for all, however, further efforts are needed in this regard**.** Measures for more inclusive education via desegregation of schools and in particular access of disadvantaged groups are missing in the plan.

Investments related to the green transition in the RRP exert their beneficial effects on social and territorial cohesion mainly via creating new and more accessible job opportunities. The modernisation of rail infrastructure and investments into sustainable

transport links are expected to help connecting remote regions to economic centres and to facilitate the commuting of jobseekers to where employment opportunities are more abundant, thereby improving the labour market outcomes of less developed regions. In addition, the construction projects related to the green infrastructure investments would provide another source of job opportunity for medium skilled workers. Assistance for renovating and increasing the energy efficiency of family homes would help addressing the energy poverty prevalent among poor households.

Taking into consideration all reforms and investments envisaged by Czechia, its recovery and resilience 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.

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

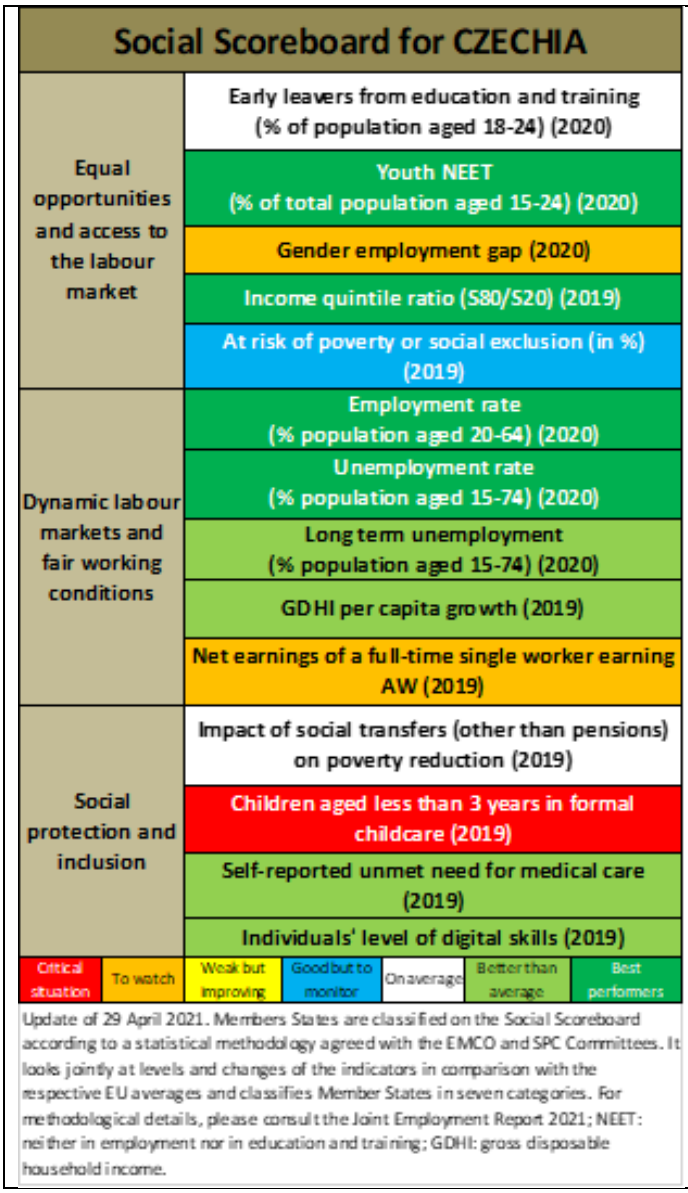
Czechia performs well on most indicators of the Social Scoreboard supporting the European Pillar of Social Rights, yet some challenges remain. Despite the COVID-19 crisis, the employment rate is among the highest in the EU and the unemployment rate among the lowest (79.6% and 3% respectively in Q4-2020). This is in part due to more than 1 million employees having been supported until April 2021 by the new short-time work scheme "Antivirus". Yet, there is scope for enhancing the labour market participation of women and vulnerable groups. The crisis also risks increasing the thus far comparatively low at risk of poverty or social exclusion rate.

The gender employment gap remains relatively high. It stood at 15.6 pps in Q4-2020, against 11.2 pps in the EU. The number of children aged less than 3 years in formal childcare has followed a steady but weak increase over the last decade, reaching 6.3% in 2019, but remaining far below the EU average (35.3%). Estimates point at 36,710 additional places needed to satisfy the demand in the school year 2019-2020. The provision of quality and affordable childcare can help to improve labour market outcomes for caregivers, most often women. The unadjusted gender pay gap (18.9% in 2019) is also well above the EU average (14.1%).

There is scope for strengthening social protection and inclusion and addressing educational inequalities. While comparatively low, the share of people at risk of poverty or social exclusion (12.5% in 2019) remains largely concentrated in some localities and within some population groups, namely single parents, the elderly, people with disabilities and Roma. This may be partially due to social transfers (excluding pensions) that are not yet fully

effective at getting certain groups of people out of poverty.
In particular, the COVID-19 crisis has had a negative impact on single-parents (STEM survey, 2021) and on educational outcomes of vulnerable groups, such as Roma, which may impact their early school leaving rates going forward (Czech School Inspection, 2021). Czechia maintains a good overall performance in education; however, socio-economic background has a strong influence on educational outcomes. Among students from disadvantaged background 37.7% are underachievers in reading, but only 8% from advantaged backgrounds are – a gap above the EU average (26.9 pps). Disadvantaged and advantaged students are concentrated in different schools to a higher extent than on average in the EU and geographical disparities are large.

The RRP addresses several employment and social challenges in Czechia that are relevant for the implementation of the Pillar. To improve labour market dynamics and working conditions, the plan puts forward targeted support for the digitalisation of schools, including support for teachers' skills and individualised actions for vulnerable groups to overcome the digital divide. While the financial support is expected to provide a welcome boost to disadvantaged schools, marginalised groups, such as Roma, could benefit from accompanying support measures to achieve a more inclusive education. Actions to foster equal opportunities and access to the labour market include an amendment of the Employment Act to strengthen active labour market policies targeted at vulnerable groups. An overarching reform scaling up of existing and proposed upskilling and in-work training actions could build a stronger momentum for adult learning. While some targeted upskilling and in-work training actions are proposed, the plan does not foresee a more ambitious and overarching reform scaling up existing strategies. The foreseen investment in community-based and home care social services, in particular targeted at elderly people, will be coupled with a new legislation on long-term care (LTC); including a mapping of LTC needs as an intermediate milestone.



Steps have been taken to improve the labour market participation of women, in particular by increasing the availability of early childhood education and care (ECEC) facilities. The right to a place in kindergarten was given to 4-year-old children as from 2017 and to 3-year-old children in 2018. Also, the flexibility of parental leave has improved. However, the planned obligation for 2-year-olds was cancelled. Despite the effort, supported mostly by ESF, Czechia remains among the worst performers regarding the number of children under 3 in ECEC. While further childcare places are planned to be provided with the support of national funding and the RRF, ESF+ and ERDF, the legislation which would support the sustainability of childcare provision has been delayed and new developments require close monitoring. However, the reform milestone to introduce this legislation has been introduced as a part of the plan.

4.4. The principle of 'do no significant harm'

Czechia has conducted a Do No Significant Harm (DNSH) assessment of all measures included in the plan in line with the Commission's technical guidance on the application of DNSH under the RRF Regulation (2021/C 58/01). It covers the six environmental objectives, namely (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems. Each DNSH 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 cases where the analysis identifies a risk, a more detailed assessment is performed. Based on the information provided by the Czech authorities, apart from the investments to be funded by the

national sources (irrigation extension in particular), no measure for the implementation of reforms and investments projects included in Czechia's recovery and resilience plan is expected to do significant harm to the environmental objectives. Several commitments include that DNSH requirements shall be respected, being enshrined in the design of measures, and reflected in various milestones and targets.

The potential harmful environmental and climate impact of all relevant measures is addressed through appropriate assurances that the applicable criteria are to be respected. The increase in the use of biomass in heat and electricity production is expected to be tackled through a reform consisting of an assessment of the trajectories of sustainable use of bioenergy and supply of biomass in Czechia and its impacts on Land Use, Land-Use Change and Forestry sinks and biodiversity as well as impact on air quality for the period 2020-2030. Building renovations will comply with requirements linked to the boiler replacement and will ensure that at least 70 % of construction and demolition waste is reused or recycled. Vehicles will meet the applicable emission standards. A number of these criteria are also reflected in the milestones and targets through references to relevant criteria and thresholds (e.g. the revision of waste legislation, the mezzanine financial instrument, biomass projects to achieve compliance with RED II Sustainability criteria and adoption of sustainability criteria for RES as mentioned above).

Component 2.6 - Nature protection and adaptation to climate change - which include flood protection, small watercourses and water reservoirs, require taking specific precautions from a climate adaptation and environmental point of view. Czechia is committed to ensure compliance with EU environmental law, namely the Water, Habitats and Birds and Environmental Impact Assessment and Strategic Environmental Impact Directives. Investments to irrigation are not subject to RRF support.

DNSH requirements apply also horizontally to similar measures across a number of components. The plan includes the commitment that conditions resulting from DNSH compliance will apply in the preparatory stage (e.g. tender specifications) as well as during the implementation of buildings renovation (e.g. in component 2.5 for residential buildings), as well as a number of other components covering for renovation of public buildings). Coal based boilers can be replaced by higher efficient and low emission gas boilers only as part of a larger renovation programme. This investment will aim not only at reducing greenhouse gas emissions but also air pollution, which is particularly problematic in some regions in Czechia. The IT tools are yet another measure, which is appearing in a number of components and procurement will need to ensure compliance with green public procurement criteria, including ensuring energy-efficient criteria for the hardware selection.

For cars and buses including special purpose vehicles (such as social service vehicles in component 3.3), the RRP makes the commitment to support only zero-emission and low emission cars (emissions below 50gCO2/km), which are considered compliant with DNSH for the climate mitigation objective. The business RDI investment schemes (component 5.2) will include a clause (e.g. in eligibility criteria of calls specifications) on the technological neutrality and ex-ante exclusion of harmful activities (e.g. coal, lignite support). Only activities that

comply with relevant EU and national environmental legislation can be selected. The DNSH compliance of the mezzanine financial instrument (component 4.2) requires that an investment strategy and subsequent contractual agreements with recipients of EU funding are aligned with the Commission sustainability proofing guidance. This requirement is reflected in the design of measures and corresponding targets.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Czechia´s recovery and resilience 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 of Annex V to the RRF Regulation.*

4.5. Green transition

Climate target

Czechia's recovery and resilience plan dedicates an amount of EUR 2.9 bn to the climate objective, which represents 41.6% of the plan's total allocation. This exceeds the minimum climate target of 37% as set out in the RRF Regulation and is based on correct application of the methodology for climate tracking as set out in Annex VI to that Regulation, by identifying intervention fields, and corresponding coefficients for the calculation of support to climate change objectives. Czechia's plan does not use any uplifting or increase of certain climate coefficients for investments.

The main pillar contributing to climate change objectives is the green pillar, which is constituted of nine components. These measures contribute towards the climate change objective through a broad range of interventions, stretching from energy efficiency and renewable energy sources to sustainable transport and climate adaptation.

Measures to improve energy efficiency in buildings, as well as to promote the acquisition of boilers based on renewable energy sources provide the largest contribution to the climate mitigation objective. With estimated costs of EUR 332 million, renovation of residential buildings (2.5.1) represents the biggest contribution of one single measure to the climate target. This is a broad energy-efficient building renovation programme which is expected to deliver energy savings of at least 30%, renovations to very high efficiency classes and the abolition of support for lower classes of energy performance. It is complemented by energy savings to be achieved in railway station buildings (2.1.3), public buildings (2.2.1, 2.2.3), university facilities (3.2.4), pre-school childcare facilities (3.3.2), social services infrastructure (3.3.3), buildings in regenerated brownfields (2.8) and public lighting (2.2.2). The aim of the plan is also to encourage investments that will increase the share of renewable energies in the end energy consumption of buildings (2.5.2). With estimated costs of EUR 283 million, renewable energy for residential buildings (2.5.2) represents the second biggest contribution of one single measure to the climate target. **In addition, the plan also includes measures to step up the support for**

the construction of new photovoltaic energy sources by undertakings (2.3.1) **and the modernisation of district heating distribution systems** (2.3.2).

The second largest contribution to the climate target is provided by supporting sustainable and clean transport and mobility. With estimated costs of EUR 264 million, the third biggest contribution of one single component in the plan to the climate target results from the electrification of the railway infrastructure (2.1.2), complemented by its modernisation (including energy savings in railway station buildings) (2.1.3) and its digitalization (2.1.1) as well as by enhancing the safety of railway and road crossings, modernizing bridges and tunnels and constructing cycling paths (2.1.4). The promotion of purchasing zero-emission trolley buses and trams in Prague (2.4.2.3) and deploying charging infrastructure for public transport in the city (2.4.1.1) also represents an important contribution to the climate target in the mobility components. This effort is complemented by grants for replacing the vehicle fleet of undertakings (2.4.2.1) and for their non-public recharging infrastructure (2.4.1.2). These big items are complemented by smaller measures but with a full climate tag such as the replacing the vehicle fleet of the public sector and deploying their non-public recharging infrastructure (2.4.2.2) and constructing recharging stations for residential buildings (2.4.1.3).

A third important part of the plan's climate contribution comes from a range of measures related to the climate adaptation and environmental protection. With estimated costs of EUR 335 million, reforestation represents a big contribution of one single measure to the climate target. This is justified by a commitment of Czechia to implement a system change that would provide for a creation of multigenerational forests with special composition, which is required for climate change adaptation. Other measures range from implementing flood protection measures, adapting small water courses and constructing small water reservoirs, retaining water in the landscape and forests and implementing anti-erosion measures (2.6) to flood protection measures of the city of Brno, rain-water management in urban areas and biodiversity protection (2.9). Although Czechia also agreed that drought management (under 2.9) will be linked to a reform for systemic enhancement of water retention in the landscape (by landscape planning), particular attention will be given to ensure complementarities between these two components 2.6 and 2.9 since Czechia failed to prepare one consolidated component and to ensure inter-ministerial cooperation. This also demonstrates that transformative potential of the plan in the areas of climate action and biodiversity mainstreaming remains largely untapped. Finally, close monitoring of milestones and targets agreed for flood prevention measures (under 2.6) will be needed at the implementation stage in order to ensure compliance with DNSH principle.

A fourth part of the plan contributes to the green transition and to some degree to the protection of the environment by promoting circular economy and waste management. This set of measures includes constructing recycling infrastructure (2.7.1) as well promoting circular solutions in undertakings (2.7.3) and water savings in the industry (2.7.4).

Several further measures contribute to the plan's climate target such as mezzanine financing of investment projects of SMEs (4.2.1) and aid for environmental R&D through support programme 'Area for Life' (5.2.4).

Table 7: Climate contribution of the components of the Czech recovery and resilience plan

Component and name of the component	Total Cost	Climate contribution	Climate Contribution	
	in EUR million		in % of cost of the component	in % of non-repayable allocation *
2.1. Sustainable and safe transport	942.58	549.43	58.3	7.8
2.2. Reduction of energy consumption in the public sector	324.60	324.60	100.0	4.6
2.3. Transition to cleaner energy sources	261.57	261.57	100.0	3.7
2.4. Developing clean mobility	191.82	191.82	100.0	2.7
2.5. Building renovation and air protection	631.55	615.32	97.4	8.7
2.6. Nature protection and climate change adaptation	541.84	417.98	77.1	5.9
2.7. Circular economy and recycling and industrial water	141.39	94.26	66.7	1.3
2.8. Brownfields	130.86	52.34	40.0	0.7
2.9 Promotion of biodiversity and drought issues	117.19	63.02	53.8	0.9
3.3. Modernisation of employment services and labour market development	885.59	336.92	38.0	4.8
4.2. New quasi-equity instruments to support entrepreneurship	39.27	15.71	40.0	0.2
5.2. Support for research and development in companies and the introduction of innovations into business practice	125.68	7.85	6.3	0.1
Total (net of VAT)	**4333.95**	**2930.81**	**67.6**	**41.6**

** Please note that the climate change contribution in percentage is calculated based on Czechia's total allocation (EUR 7.036 million).*

Green transition

The recovery and resilience plan contributes to Czechia's green transition, addresses the related challenges, and is overall aligned with the priorities of the European Green Deal and its 2030 climate target plan as well as the goal to make the EU climate-neutral by 2050. The plan contains components addressing most of the green transition areas and making contributions to achieving those priorities and goals. Concerning clean energy, components 2.3 and 2.5 include investments aiming at increasing renewable energy sources in Czechia's energy mix, with the overall objective of savings in primary energy sources. On renovating and building, sizeable investments are planned particularly under components 2.5 and 2.2 to improve the energy efficiency of Czechia's ageing stock of residential and public buildings, respectively. On sustainable mobility, components 2.1 and 2.4 consist of large-scale investments aiming to foster the electrification of rail infrastructure, improve urban public transport in Prague and equip undertakings with electric and hydrogen vehicles and non-public recharging infrastructure. Components 2.6 and 2.9 include measures to promote climate adaptation and biodiversity, such as reforestation, flood protection measures, the revitalisation of watercourses and the retention of water in the landscape. Unfortunately, the afore-mentioned investments are not complemented by ambitious reforms in the plan that would have the potential to adapt the legal, administrative and economic framework to incentivise the uptake of renewable energy, energy efficiency, clean mobility or nature-based solutions to address climate change and to protect biodiversity. Moreover, despite the measures under components 2.6 and 2.9 claiming to address similar objectives, complementarities between measures to be implemented remain to be demonstrated. Finally, on sustainable industry, component 2.7 includes reforms targeted at devising the legal and strategic preconditions for the transformation of Czechia to a circular economy. These measures are accompanied by investments into the creation of infrastructure for recycling and energy recovery in biogas installations, alongside the support for investments in circulatory solutions and water savings in the business sector.

The plan is in line with the strategic principles of Czechia's NECP. The Czech recovery and resilience plan includes investments serving all five dimensions of the NECP, but no reforms able to initiate systemic changes are envisaged. The plan specifically addresses Czechia's contribution to the European climate-energy objectives, focusing on the reduction of greenhouse gas emissions, the efforts to ramp up the usage of renewable energy sources and increased energy efficiency.

Regarding greenhouse gas emissions, Czechia has committed to a reduction of 30% until 2030 compared to 2005 in its NECP. For emissions not covered by the EU Emissions Trading Systems, the NECP foresees a reduction of 14% until 2030, as set in the Effort Sharing Regulation. Against the backdrop of the expected increase in energy demand in the transport sector, the Czech recovery and resilience plan contributes to this objective through its investment in electric transport and smart mobility in both urban and rural areas. The NECP also describes Czechia's efforts to lower greenhouse gas emissions in the building sector through the New Green Savings programme, a subsidy scheme closely intertwined with the component on building renovation and air protection. In addition, the plan aims at ensuring the reduction of

greenhouse gas emissions by a better use of digital technologies. As to its contribution to the Land Use, Land Use Change and Forestry (LULUCF) sector, the plan includes further investments in increasing the carbon sink through afforestation and enhancing the water retention of forests. These investments are complemented by the preparation of an assessment on the sustainable use of bioenergy, supply of biomass and its expected impacts on the LULUCF sector.

Concerning renewable energy sources, the plan addresses the transition from fossil fuels towards low- and zero-emission energy sources. In pursuit of this objective, the plan entails investments amounting to the construction of 270 MWp (megawatt peak) of photovoltaic power plants by 2026. This capacity, corresponding to around 972 TJ in gross final consumption, is expected to help meet the objective of 239 717.2 TJ stated in the NECP. This objective represents an increase of 22%, which has been deemed as unambitious by the Commission. Additional measures incentivising investments in renewable energy resources may be needed to fulfil the objective set in the NECP. Moreover, component 2.3 on cleaner energy sources aims at lowering the level of coal combustion for heat and electricity production by increasing the efficiency of district heating distribution and reducing greenhouse gas emissions and pollutants. This measure is expected to achieve additional 245 TJ of energy savings by 2026.

A sizeable share of the plan is dedicated to energy efficiency. In the NECP, Czechia set its national contribution to the European efficiency targets in 2030 at 23.7 million tonnes of oil equivalent (Mtoe) for final energy consumption, which has been deemed of modest ambition by the Commission. For primary energy consumption, the projected contribution is 41.4 Mtoe, which has been assessed to present a low level of ambition. The recovery and resilience facility aims at implementing several measures outlined in the NECP but should also build up on them. Further, reflecting the requirements set out by Directive 2012/27/EU on energy efficiency as amended by Directive 2018/2002, investments under the recovery and resilience facility complementing other financing sources are aimed at tackling the low levels of energy efficiency of buildings. This concerns buildings in the residential and public sector in general, as well as more targeted investments into buildings of the railway, education and social sector. Relatedly, the plan foresees energy-efficient renovations of buildings in former brownfield areas. Additional public funding may be however needed to mobilise the total volume of investments necessary to fulfil the outstanding energy savings required to achieve the objective set in the NECP and the long-term renovation strategy for 2030.

In terms of energy security, Czechia's NECP aims at limiting import dependency below 65% and 70% by 2030 and 2040, respectively. The projected increase in import dependency is due to the planned phase-out of coal by 2038, which is foreseen to be substituted by renewable energy sources, natural gas and nuclear power generation. The support for cleaner energy sources under the Czech plan contributes to the diversification of the energy mix and therefore provides a small contribution to improving energy security.

Another part of the plan contributes to sustainable transport and mobility through the digitalisation of transport, electro-mobility in rail transport, increasing the share of rail transport in freight and passenger transport, increasing the importance of active mobility in cities, improving traffic safety, and reducing the impact of traffic on the environment and public health.

In addition, the plan pays attention to alternative propulsion in road transport and urban bus transport. It incorporates sustainable urban mobility plans, which aim at promoting greater use of more energy-efficient modes of transport for regular and heavy transport flows. Yet Czechia misses the opportunity to shift to clean mobility with road levies, taxation, or other regulatory measures. Moreover, the plan includes the creation of non-public charging stations for electric vehicles for private companies, the city of Prague, and to a lesser extent, also for residential buildings. It will also support the purchase of electric and hydrogen vehicles for private companies as well as trolley buses and trams for the city of Prague. The aim is to increase incentives for operators to invest in the construction of alternative fuels infrastructures and to promote the purchase of zero emission vehicles. Overall, the ambition seems low with no publicly accessible electric recharging and hydrogen refuelling infrastructure planned to be financed under RFF and only 4 580 not publicly accessible recharging points envisaged. This is significantly low as Czechia itself states an ambition to have 35 000 publicly accessible rechargers by 2030.

Beyond the measures relating to the objectives of the NECP, the recovery and resilience plan aims at promoting the green transition and 'zero pollution' ambition of the European Green Deal through the efficient usage of natural resources, in particular through water and waste management, decreasing of air pollution and protection and restoration of natural environment. In doing so, the recovery and resilience plan is underpinned by a number of national plans beyond the NECP, such as the National Action Plan for Adaptation to Climate Change, the Czech Biodiversity Strategy 2016-2025, the Czech Strategic Framework 2030, Air quality plans, River Basin Management Plans and Flood Management Plans, the national Waste Management Plan, and the Circular Economy Action Plan. Concerning climate mitigation, the measures on energy efficiency and renewable energy sources aim at reducing greenhouse gas emissions. As regards 'zero pollution', the investments are also expected to contribute to meeting the national reduction targets under Directive EU 2016/2284. Emission reductions are also set to have a positive impact on water quality, especially the reduction of benzo(a)pyrene emissions. In addition, strategic reforms and investments are planned to contribute to advancing the objective of a circular economy. These measures also ensure the sustainable use and protection of water and marine resources, while supporting the prevention and control of pollution.

Czechia is a climate-vulnerable country exposed to the adverse impacts of climate change, in particular due to floods and droughts. The plan includes a number of investments and few reforms related to climate change adaptation, including legislative act aiming at a systemic approach to tackle droughts and water scarcity, measures aiming at improving the conservation status of protected areas of the Natura 2000 network, at supporting the adaptation to climate change of aquatic, non-forest and forest ecosystems and at managing rainwater in urban areas; nevertheless the contribution to the mainstreaming of the biodiversity could have been reinforced by further measures, namely to ensure the strategic support to nature based solutions which is still missing in Czechia. The plan contains measures aiming at an improvement of the morphological condition of existing small watercourses and small water reservoirs, measures aiming at increasing the ecological stability of the landscape and its resilience to climate change, at promoting biodiversity and at protecting agricultural lands and water resources. Given the lack of use of nature-based solution, these measures are not considered as not fully consistent with the

objective of the EU Biodiversity Strategy of restoring river continuity and natural conditions to boost the ecological quality of waters. Finally, the plan covers a reforestation measure that is expected to contribute to an increase of the forest cover area by 36 000 ha.

The plan also includes measures that address societal and economic challenges resulting from the green transition. These include investments in the building renovation, renewable energy sources, sustainable transport, climate adaptation and circular economy. For the sake of addressing energy poverty, part of the support for the replacement of coal-fired boilers by renewable energy solutions is designed to tackle the financial obstacles encountered by low-income households. The potential negative impact on social cohesion is addressed by measures supporting reskilling of the labour force, including workers at risk of redundancy due to the coal phase-out. Czechia is expected to adopt a territorial Just Transition Plan at a later stage to ensure a just transition of these structurally disadvantaged regions.

In line with the EU's and Czechia's environmental and energy strategy, these measures are expected to help Czechia achieve a green transition, stimulating changes to energy production and transport. The RRF is expected to provide an important part of investments needed for the fundamental infrastructure framework for a stable economy in line with Czechia's long-term strategy.

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 contributes 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

The recovery and resilience plan of Czechia applies the digital tagging methodology correctly as it is defined in Annex VII to the Regulation (EU) 2021/241 on establishing the Recovery and Resiliency Facility. The recovery and resilience plan foresees EUR 1 636 763 550 of investment in digital transition, which indicates a 22.1% contribution of the total plan's allocation dedicated to digital transition according to the digital tracking methodology. The choice of intervention fields for the digital transition is well justified and reflects the nature, focus, objective, or expected outcome of the investments included in the component. Hence, the plan is in compliance with and safely above the required 20% threshold stipulated in Article 18 (4), point (f) of the Regulation (EU) 2021/241.

Table 8: Digital contribution of the components of the Czech recovery and resilience plan

Component and name of the component	Total Cost	Digital contribution	Digital Contribution	
	in EUR million		in % of cost of the component	in % of non-repayable allocation*
1.1 Digital services for citizens and businesses	112.19	112.19	100.0	1.6
1.2 Digital government systems	277.05	277.05	100.0	3.9
1.3 Digital high-capacity networks	227.28	227.28	100.0	3.2
1.4 Digital economy and society, innovative start-ups and new technologies	224.26	215.65	96.2	3.1
1.5 Digital transformation of enterprises	196.37	196.37	100.0	2.8
1.6 Acceleration and digitalization of Building permit process	56.80	56.80	100.0	0.8
2.1 Sustainable and safe transport	942.58	37.51	4.0	0.5
3.1 Innovation in Education in the Context of Digitalisation	190.75	190.75	100.0	2.7
3.3 Modernisation of employment services and labour market development	885.59	179.09	20.2	2.5
4.5 Developing the cultural and creative sectors	214.04	40.22	18.8	0.6
5.2 Support for research and development in companies and the introduction of innovations into business practice	125.68	23.56	18.8	0.3
Total (net of VAT)	**3452.61**	**1556.49**	**45.1**	**22.1**

** The climate change contribution in percentage is calculated based on Czechia's total allocation (EUR 7.036 million).*

Czechia plans to invest in a wide range of activities and infrastructure to boost the digital transition of the economy. The structure of reforms and investments is balanced and appropriately distributed between human capital, digitalisation of businesses and digital public services. Significant investments are foreseen inter alia in the development of core registers and other eGovernment facilities, high-capacity connectivity infrastructure, digitalisation of businesses, deployment of innovative digital technologies, digital skills including ICT equipment for educational purposes and re- and upskilling. The plan envisages one pillar with six components completely dedicated to the digitalisation of the economy, while ten components out of the 26 financed from the recovery and resilience facility contribute towards the digital target. In total, the plan contains 55 investments and reforms included in the calculation of the digital

target. There were no coefficients increased within the meaning of Article 18 (4), point (f) of the Regulation (EU) 2021/241.

The largest contribution to the achievement of the digital target of the plan comes from investment in digital skills and human capital, essential for the successful digital transition of the economy and society. Tackling the insufficient supply of digital experts in the labour market and preparing the future generations for the challenges induced by an increasingly digital and automated economy through education programmes is necessary in order to foster the growth potential of the Czech economy. As described in section 2.3, the education system plays a vital role in addressing the need for digitalisation and Czechia needs to do more to provide equal access to digital learning, digital skills and to stimulate life-long learning.

The recovery and resilience plan supports the digitalisation of education through a coherent set of reforms and investments. On the reform side, the plan, in line with the national strategy Education 2030+, puts forward a revision of curricula to reinforce digital education, combined with training programmes for teachers, provision of digital educational content and mentoring for schools. The investments are directed at connectivity, ICT equipment for schools and pupils taking into account the socio-economic disparities. The increased access to digital technologies will also contribute to social cohesion by reducing the educational barrier for disadvantaged children, thus supporting the objectives of the European Pillar of Social Rights. As regards higher education, the plan aims at accelerating adaptation of the study programmes to digital learning and new study fields, in particular in rapidly developing IT sectors.

To address changing needs of the labour market, Czechia proposes to invest in re- and upskilling programmes, focusing largely on digital skills, in particular of employees and job-seekers in the spirit of the Digital Decade strategy. The lack of digital experts poses a major obstacle to the digitisation of Czech companies and the economy, however, the envisaged re- and upskilling programmes coupled with the technological support to companies for digitisation will foster the growth of SMEs and businesses and will make more resilient against future shocks. In line with the Pact for Skills, the plan also foresees to reinforce coordination of upskilling and reskilling with the social partners, in order to improve matching with the labour market needs.

The plan also aims to increase the resilience of companies through digitalisation of manufacturing and further non-production related processes. This investment consists of grant support programmes for individual investment projects open for SME as well as for larger enterprises, including those implementing large-scale projects potentially qualified as IPCEI. Czechia will further invest in the deployment of cutting-edge innovative digital technologies such as the application of artificial intelligence, blockchain or quantum communication. The plan will support technological demonstration projects in the area of Industry 4.0 and 5G. The support for the digitalisation of the aeronautics industry is likely to create a spill-over effect to other sectors. These investments will be further reinforced by investing in the innovation ecosystem supporting start-ups and innovative businesses through Digital Innovation Hubs, the Centre of Excellence for AI and regulatory sandboxes in line with the objectives of the Digital Europe Programme, Horizon Europe and the Shaping Europe's Digital Future strategy. The plan is expected to also strengthen Czechia's participation in relevant technological European multi-

country projects. The complementary nature of the envisaged measures will enable Czechia to exploit the synergies between innovation, infrastructural development and digital transition of the society and has the potential to facilitate the growth and the transition towards a higher value added digital economy. These investments will contribute to the flagship objectives of the recovery and resilience facility in particular to "Scale-up".

Investment in public administration, notably in eGovernment services is strongly present in the plan in line with the "modernise" flagship of the recovery and resilience facility, which has the potential to improve the business environment in Czechia. Access to quality eGovernment services will increase transparency and ease the administrative burden on companies. Czechia scores as 22nd on the DESI index for eGovernment and it received a country specific recommendation in 2019 asking for more action on reducing the administrative burden for investments. The plan envisages measures not only to develop the back-end infrastructure and to link core registries but also to increase the number and quality of eGovernment services offered to citizens and businesses such as bigger volume of open data or interoperability between user-oriented portals. This includes the provision of a broader and more integrated set of eHealth services and the strengthening of the cybersecurity of the critical information systems. The COVID-19 pandemic has proven the importance of having robust and well-functioning information systems in place, which will help to manage the needs of citizens and businesses, thus contributing towards a more resilient society and economy. Moreover, Czechia is committed to reform the construction permission procedure, in conformity with the Environmental Impact Assessment Directive, in order to shorten the length of the process, which has been an obstacle for businesses and investment. These measures will increase transparency and improve the efficiency of public administration, and reduce the time and costs of administrative processes, hence, helping to create a more supportive environment for businesses.

The plan foresees measures to improve connectivity including in rural areas by investing in very high-capacity and 5G networks. As highlighted in section 2.3, so far only 33% of Czechia's households are covered by fixed very high capacity network despite an overall high coverage of fast internet. The plan is also expected to improve the environment for the deployment of electronic communication networks and building 5G corridors, through reforms promoting availability of information on physical infrastructures and civil works and supporting the development of 5G by promoting infrastructure sharing and improving the process for granting spectrum. This will increase access to quality digital services for both citizens and business and it will support the deployment new digital technologies, complementing the other reforms and investments in the plan.

Overall, the Czech RRP makes a solid effort to foster the digital transition of the economy and the society. The planned investment in high-capacity and 5G networks should increase the connectivity of households and business and the support to cutting-edge digital technologies should foster the digitisation of businesses, innovation and uptake of new technologies. The reform of the curricula complemented with digital equipment and the re- and upskilling programmes could positively contribute towards the increase of digital literacy in the society and

the availability of IT experts. Hence, the envisaged measures have the potential to create a lasting impact and support the digital transition and growth potential of the Czech economy.

The recovery and resilience plan of Czechia applies the digital tagging methodology correctly as it is defined in Annex VII to the Regulation (EU) 2021/241 establishing the Recovery and Resiliency Facility.

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 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

Czechia's recovery and resilience plan entails highly relevant structural changes to public administration and institutions. The recovery and resilience plan of Czechia presents a set of reforms and investments with a focus on the latter, which have the potential to have a lasting impact on Czechia. The plan introduces measures presenting structural changes in public administration, business administration (crucial new construction act and digitalisation of the permitting procedure), transport, energy savings and energy resources of households, skills and education, anti-corruption, research and innovation and access to health and social care. The plan puts forward an ambitious agenda for the digitalisation of business and a supportive recovery agenda for strengthening the innovation ecosystem, which should foster sustainable growth and increased competitiveness of Czechia.

The reforms of the justice system and of the corruption prevention framework can have a lasting impact. They are about strengthening the independence of the judiciary by increasing transparency of the process of selection of judges and offering additional safeguards in disciplinary proceedings against judges, prosecutors and bailiffs. With a view to anti-corruption, one of the measures is focused on improving data collection on corruption in Czechia. Additionally, new rules on whistleblower protection and on lobbying at the central level are proposed to enhance transparency in the decision-making process.

Digitalisation efforts across a wide range of institutions and public administration have the potential to structurally enhance efficiency and improve the quality of public services. A wide range of measures supporting eGovernment, connectivity, e-health and education (digital skills) will be implemented.

Structural change in policies

Structural reforms are also foreseen in the legal framework in some policy areas, e.g. in education, health care or digitalisation. The measures included in the plan try to address the root causes of the challenges identified and not just symptomatic issues. Reforms and investments are expected to have a lasting impact on economic activity in Czechia, raising GDP by an estimated 11.2% in the long-term (2020-2040). However, Czechia missed the opportunity to address some other structural challenges linked to clean transport or the efficiency of R&D ecosystem and governance.

The plan contains a limited number of measures to respond to the country's challenges in the area of gender equality and equal opportunities for all. These include efforts to promote female employment, notably through an increase of childcare services. They also include the introduction of support measures for schools in the most socially disadvantaged localities and to increase the quality of education for "children endangered with school failure" as examples of measures to tackle inequalities in Czechia but they do not mention explicitly segregated Roma schools for example. The plan states that the development of new or innovative information systems will respect the existing laws on accessibility for persons with disabilities, and those new buildings will respect the accessibility rules enshrined in the new construction act. However, this is mere compliance with the existing rules, and Czechia does not take the opportunity of the plan to contribute to gender equality and equal opportunities for all sectors. Equality considerations should have been taken into account much more consistently throughout the plan.

Lasting impact

The recovery and resilience plan of Czechia presents a set of reforms and investments with a focus on the latter, which have the potential to have a lasting impact on Czechia, both on institutions and policies. In its plan, Czechia not only provides estimates of the expected economic and social impact including in a long-term perspective until 2040, but also identifies implementation risks and challenges for key reforms and investments. It also provides an estimate of implied improvements to long-term fiscal sustainability and the debt trajectory. However, more justification on assumptions behind the estimates on long-run productivity gains (e.g. targets not directly under the control of the government) could have helped to further underpin the analysis of lasting impacts.

Czechia has put emphasis on broad stakeholder involvement during the implementation of the plan to ensure structural changes can count on broad support. The plan envisages setting up a committee to ensure a structured dialogue with key stakeholders throughout the implementation phase, as well as a communication strategy for the broader public.

Sizeable investments are set to bring lasting change in the Czech economy. The investment into sustainable modes of transport, such as railways and into energy efficient renovation of housing stock and public buildings, is expected to reduce air pollution, aid green transition and contribute to territorial cohesion. The investments into innovative start-ups, SMEs and large enterprises through different funding schemes, coupled with the strengthening of the innovation ecosystem and investment in very high capacity networks, are set to foster innovation and

competitiveness of Czech businesses whilst contributing to green and digital transition. Healthcare reforms are supported by investment in specialised, screening programmes and comprehensive rehabilitation care as well as in excellent research in selected healthcare fields, which overall can improve health outcomes and societal impact. Investments in education, training and aid the social cohesion and contribute to cushioning the potential impact of changing labour market trends and demographics. These investments are leveraged by further investment into project preparation, trainings, awareness raising, methodological and analytical support at the central, regional and local levels to foster green and digital transition and maximise the impact and the absorption of additional resources including funds from the Recovery and Resilience Facility. In view of promoting wider coherence across instruments a balanced territorial allocation of resources is encouraged. Lasting impact of the plan can also be enhanced through synergies between the plan and other programmes financed by the cohesion policy funds, notably by addressing in a substantive manner the deeply rooted territorial challenges and promoting a balanced development.

Taking into consideration all reforms and investments envisaged by Czechia in its recovery and resilience plan, their implementation is expected to a large extent to bring about a structural change in the administration, in relevant institutions and 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

Milestones, targets and indicators

The plan includes **115** milestones and **129** targets that appropriately reflect the implementation of the measures over the entire life-cycle of the Czech recovery and resilience plan. The achievement of milestones and targets shall be verified using a detailed set of indicators, which is overall sufficiently clear and comprehensive.

The milestones and targets are relevant and well-defined, with their number generally ranging between two and three per measure. In the first phase of the plan, milestones are the predominant monitoring device, often 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 achieved. Hence, the proposed milestones and targets can be considered in line with the long-term objectives of the plan.

The total number of milestones and targets is relatively high at 244, reflecting the large number of measures and sub-measures in the plan. Nevertheless, there is no indication that this fragmentation could jeopardise the efficient monitoring and implementation of the plan. Milestones and targets are specified such that they ensure compliance with the 'Do no significant harm' principle and appropriately justify the climate and digital tagging of the measure.

Czechia has also proposed a broad range of indicators, providing a suitable proxy for the successful achievement of the milestones and targets. These indicators are deemed relevant, acceptable and robust. The majority of the indicators is under direct control of the government, since they either relate to input supplied by the government, as in the case of legislative acts, or to measurable outputs, as it is the case for targets. Factors outside the control of the government are expected to impact only very few indicators.

While the achievement of the milestones is realistic, the level of ambition of some of the indicators can be considered modest. This approach, however, allows including measures with higher uncertainty about the outcome, such as investments funding R&D or demand-driven schemes, in the plan. To safeguard the qualitative success of the measures, these investments have been complemented with appropriate milestones and targets. Further, intermediate milestones and targets have been added for several measures, to ensure that Czechia may take corrective actions early on if necessary.

The verification mechanisms, data collection and responsibilities outlined in the plan appear sufficiently sound, reliable and verifiable to justify the disbursement requests upon achievement of the milestones and targets.

Overall organisational arrangements

In order to monitor the progress on milestones and targets, component owners will set up system with regular monitoring reports submitted by the final recipients. The supporting documents related to the achievement of milestones will be stored in the main IT system or in the systems at the level of component owners. Following a recent audit carried out by the Commission services on other EU programmes, serious deficiencies in the design and functioning of the system to avoid a conflict of interests have been identified. Moreover, the coordinating body is classified in category 3 by the national audit authority also for inadequate procedures to avoid conflict of interests. This means that major issues have been detected and substantial improvements are needed by the Ministry of Industry and Trade. Therefore, dedicated milestones are included in the Plan to ensure effective development and implementation of the action plan on the system that is intended to be used in the area of conflict of interests.

The arrangements proposed by Czechia in its recovery and resilience plan are expected to be the minimum 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 B under the assessment criterion 2.8 of Annex V to the RRF Regulation.

4.9. Costing

Czechia has provided individual cost estimates for all investments and reforms included in the recovery and resilience plan for which funding through the facility is requested. Overall, Czechia has submitted sufficient evidence and explanations for the cost estimates to be considered reasonable and plausible. For all measures, Czechia has also provided information

regarding the additionally with other Union funds. Lastly, the costs can be considered commensurate and in line with the principle of cost efficiency.

Reasonable costs

Based on the assessment of individual cost estimates and related supporting documents, the cost estimates for most of the measures in the plan are deemed reasonable. Measures representing a significant majority of the plan are rated as "reasonable" to a "high" or "medium" extent. For the majority of measures included in the plan, Czechia provided sufficient information and evidence on costs, based on the template tables, backed up by descriptions of the methodology used, the cost calculations as well as the budgetary implications of the measure.

The reforms and investments included in the plan comply with the eligibility criteria set out in the Regulation. Based on the information provided by the authorities, costs supported under the RRF are incurred only for reforms and investments implemented after 1 February 2020, exclude value-added tax (VAT), and do not substitute national budgetary expenditure. Costs that could have a recurrent nature are included in the plan only to a limited extent and for duly justified exceptions, in accordance with article 5(a) of the Regulation. In these cases, the costs have been demonstrated to have a positive expected effect on the longer-term economic and social resilience of Czechia in line with the objectives of the RRF. Czechia has also provided reassurance that these costs will not lead to a deterioration of the national budget after 2026. For instance, salaries are only supported by the plan if they are of temporary nature and inherently and directly linked to the outcome of the measure (e.g. salaries of trainers for the implementation of upskilling programmes, salaries of researchers involved in R&D projects). Some of the measures explicitly provide reassurance for compliance with the eligibility criteria. In a limited number of cases, the compliance with the eligibility conditions is not explicit, yet there is no indication that the costs incurred may be incompatible with the eligibility criteria of the RRF.

The costs in the Czech recovery and resilience plan have been estimated based on several methodologies. The costs of some measures have been calculated using bottom-up approaches, with reference to market prices or prices of similar units in past investments for the key cost drivers. Market or feasibility studies have been provided in some cases. For other measures, costs estimates are derived from the costing data of similar investments carried out in Czechia or in other Member States. The information provided sometimes rely on the results of tenders conducted for current or past similar projects. For demand-driven schemes, where final beneficiaries must submit applications for intended projects, ex-ante cost estimations are less precise than in the case of measures, where the type and nature of projects is clearly defined upfront. For former, the authorities have provided a target in terms of beneficiaries and the overall amount to be spent, often supported by evidence that the costs of the measure are in line with the investment absorption capacity of the sector. The Czech authorities did not provide an independent validation for any of the cost estimates proposed.

Most of the cost estimates rely on an understandable methodology, which is based on underlying assumptions. For some measures, however, the methodology is not sufficiently substantiated and the link between the justification and the estimated costs is not clear enough to

deem the costs reasonable. Furthermore, for several measures, it cannot be fully guaranteed that the comparability with past projects is fully assured and that the assumptions and adjustments are appropriate. This is for example the case for demand-driven schemes. This aspect and the lacking validation of the cost estimates by an independent public body are the main reasons preventing the plan from receiving a high rating on reasonability.

Plausible costs

Based on the assessment of individual cost estimates and related supporting documents, most of the measures in the Czech plan are deemed plausible at least to a medium extent. Measures representing a significant majority of the plan are rated as "plausible" to a "high" or "medium" extent. For most of the measures included in the plan, the Czech authorities have provided reference costs including historical or comparative data for the cost drivers, which are the results of previous investments or tenders in Czechia or other Member States. For innovative schemes, studies or reports with cost estimates or input costs have been provided.

Based on this evidence, the estimated cost can be considered consistent with the reference costs for the large majority of reforms and investment, including other EU programmes, independent studies on the costs of the projects, or based on market prices for unit costs.

In some cases, adjustments to comparative costs have been made, ensuring the comparability of the projects financed under the RRF with past projects. Nevertheless, the exact comparability of these projects cannot be established in all instances, in particular for the case of demand-driven schemes. Whilst factoring in the limitations of ex-ante costing approaches, the lack of complete comparability is the major a reason preventing the plan from receiving a high rating on plausibility.

No double EU financing

For the majority of measures in the plan, the Czech authorities have provided additional information on whether the measure or similar measures receive funding from other EU sources. For each measure where other EU financing is envisaged, the name of the program has been provided, and, if available, Czechia has provided information on the amounts covered. In cases where the delineation of the projects financed from other EU funds was possible, information on the delineation was provided, based on differences in the timing of the funding or the nature of the intervention.

For several measures, an exact delineation is not possible because the negotiations of the Partnership Agreement and Cohesion programmes for 2021-27 have not been finalised yet. While the resources have not been allocated to specific areas, calls and projects, the authorities provided assurance that no project to be financed from the RRF will receive funding from other EU funds. This applies to various investment areas, as the Cohesion policy funds are traditionally involved in different sectors, ranging from digital and green investment to social and education measures. Further detail on the overall arrangements ensuring the avoidance of double funding is provided under section 4.10.

Commensurate and cost-efficient costs

The amount of the estimated total costs of the plan is commensurate to the expected social and economic impact of the funded measures and in line with the principle of cost-efficiency. The plan is expected to address a significant subset of challenges identified in the country-specific recommendations (CSRs), previous Semester country reports, as well as recommendations monitored through the Social Scoreboard (see Box 3). The reforms and investments in the plan are also aligned with the European "flagship initiatives" of the 2021 Annual Sustainable Growth Strategy. The plan contains several measures that aim to foster economic growth and economic cohesion in an inclusive manner. It is addressing weaknesses of the Czech economy, boosting the growth potential, stimulating job creation, and mitigating the adverse effects of the crisis. This is visible in measures that sustain the acceleration of digitalisation of the public administration and thus addressing an important investment barrier, measures related to the green transition, which provide a new source of economic growth while allowing phasing out polluting industries, or measures to support the financing of SMEs, research and development, and highly innovative projects. Moreover, the plan contains measures that aim to strengthen social cohesion, including policies aiming at reducing inequalities in education and integration of the most vulnerable groups in the labour market. This is visible in measures destined at upskilling and reskilling the workforce, measures to improve the participation of women into the labour force or measures to further improve the educational system in Czechia. As a result, even though the plausibility and reasonability of the cost estimates can only be considered medium, the positive expected impact of the plan on the Czech economy and society warrants a high rating in terms of commensurability and cost efficiency.

The justification provided by Czechia on the amount of the estimated total costs of the recovery and resilience plan is to a medium extent reasonable and plausible, it is in line with the principle of cost-efficiency and commensurate to the expected national economic and social impact.

Czechia 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 to the RRF Regulation.

4.10 Controls and audit

Robustness of internal control system and distribution of roles and responsibilities

The outline of the internal control system has a clear structure. Control actors are identified across all levels, but not all elements are fully defined. The national set-up for the RRF internal control system consists of two levels:

a. Management verifications carried out by the component owners and coordinating body; and
b. Audits carried out by the national audit body.

The Managing Council of the national recovery and resilience plan is the highest decision-making and approval body with the responsibility for the overall coordination and monitoring of the Plan. Payment claims have to be approved by this committee. The Ministry of Industry and Trade, as the central coordinating body for the RRF and its implementation, is responsible for the coordination, the monitoring and the reporting of the Plan and is the main point of contact for the Commission. This body is also responsible for the drawing-up of the payment claims and management declarations.

The Plan specifies 11 component owners for 26 components. The main responsibility for the first level of the control system lies on component owners. Component owners are responsible for (i) the overall management of the particular component; (ii) verification of the compliance of implemented measures with applicable Union and national law; and (iii) verification of the progress in achievement of defined milestones and targets. In order to monitor the progress on milestones and targets, component owners will set up system with regular monitoring reports submitted by the final recipients. The supporting documents related to the fulfilment of milestones will be stored in the main IT system, which is not in place yet, or in the systems at the level of component owners.

The second level of the control system is entrusted to the audit body – Department 52 – Audit authority at the Ministry of Finance. This audit body is functionally and organizationally independent from the coordinating body and the component owners. The audit body for its audit work follows the international audit standards. In the Plan it is indicated that the audits will verify whether (i) the Plan is implemented in compliance with applicable Union and national law; (ii) internal control system provides adequate assurance that defined milestones and targets have been achieved; and (iii) mechanisms to prevent, detect and correct serious irregularities and avoid double funding are working efficiently. The audit body describes in general the audit approach which includes (i) system audits to provide reasonable assurance that the system functions effectively and prevents, detects and corrects irregularities; and (ii) substantive testing to verify that defined milestones and targets have been achieved at the project level. The audit strategy will be drafted within 3 months from the approval of the Plan and will be reviewed on annual basis. This will be followed-up through the specific milestone to be fulfilled before the first payment request is submitted to the Commission. The audit work will be carried out at the level of the coordinating body, component owners and if needed also at the level of final recipients. This body is also the audit authority for the ESI Funds as is assessed positively by the relevant Commission services. Extensive experience from the audit of ESI Funds is evident as regards the quality of procedures for drawing-up of the summary of audits and planning and carrying out the audit activities.

Adequacy of control systems and other relevant arrangements

Concerning the prevention and detection of serious irregularities, the Plan describes to a certain extent the national procedures and measures. The regular risk analysis (including fraud risk analysis) will be carried out by the coordinating body and component owners on annual basis. Moreover, all bodies involved in the implementation of the Plan will follow national anti-corruption strategy. The Plan also clarifies that the data mining and risk scoring tool Arachne will be used for the verification of the absence of conflict of interest, fraud, corruption

and, where relevant, double funding. This tool will be also used for the monitoring of risks related to the implementation of the Plan and its results will be used for the purpose of updating the fraud risk assessment.

The Plan describes that component owners will be responsible for the collection and storage of data on final recipients in line with requirements of Article 22(2), point (d) of the RRF Regulation. However, the assurance that the application of beneficial ownership in the context of the RRF internal control system and the procedure describing the collection and storage of this data are fully aligned with the definition of 'beneficial owners' as defined by Article 3, point 6 of Directive 2015/849 is pending. Notably, the RRF Regulation requires that, when implementing funds under the RRF Member States must provide information on the use of funds in relation to beneficial owner(s), including corporate entities, trusts and legal entities, as defined in point 6 of Article 3 of Directive (EU) 2015/849 of the European Parliament and of the Council. The specific definition as defined in Directive 2015/849 is:

'beneficial owner' means any natural person(s) who ultimately owns or controls the customer and/or the natural person(s) on whose behalf a transaction or activity is being conducted and includes at least:

(a) in the case of corporate entities:

(i) the natural person(s) who ultimately owns or controls a legal entity through direct or indirect ownership of a sufficient percentage of the shares or voting rights or ownership interest in that entity, including through bearer shareholdings, or through control via other means, other than a company listed on a regulated market that is subject to disclosure requirements consistent with Union law or subject to equivalent international standards which ensure adequate transparency of ownership information.

A shareholding of 25 % plus one share or an ownership interest of more than 25 % in the customer held by a natural person shall be an indication of direct ownership. A shareholding of 25 % plus one share or an ownership interest of more than 25 % in the customer held by a corporate entity, which is under the control of a natural person(s), or by multiple corporate entities, which are under the control of the same natural person(s), shall be an indication of indirect ownership. This applies without prejudice to the right of Member States to decide that a lower percentage may be an indication of ownership or control. Control through other means may be determined, inter alia, in accordance with the criteria in Article 22(1) to (5) of Directive 2013/34/EU of the European Parliament and of the Council (29);

(ii) if, after having exhausted all possible means and provided there are no grounds for suspicion, no person under point (i) is identified, or if there is any doubt that the person(s) identified are the beneficial owner(s), the natural person(s) who hold the position of senior managing official(s), the obliged entities shall keep records of the

actions taken in order to identify the beneficial ownership under point (i) and this point;

(b) in the case of trusts:
(i) the settlor;
(ii) the trustee(s);
(iii) the protector, if any;
(iv) the beneficiaries, or where the individuals benefiting from the legal arrangement or entity have yet to be determined, the class of persons in whose main interest the legal arrangement or entity is set up or operates;
(v) any other natural person exercising ultimate control over the trust by means of direct or indirect ownership or by other means;

(c) in the case of legal entities such as foundations, and legal arrangements similar to trusts, the natural person(s) holding equivalent or similar positions to those referred to in point (b);

Accordingly, dedicated milestones have been proposed to ensure that the compliance review of the national procedures on the application of the beneficial ownership rules and the procedures describing the collection and storage of data on final recipients are finalized, including the use of the definition of beneficial owner as defined above, before the first payment request is submitted to the Commission. The satisfactory fulfilment of these milestones will give the necessary reassurance that the legal obligation to apply this definition of beneficial ownership is met, including on trusts. Should the milestones not be considered satisfactorily fulfilled, as for all such milestones and targets related to the national control framework, all payments under the RRF will be suspended. Once implemented, the application of these milestones will be reinforced by the management declaration at the time of payment requests, as required by Article 22(2)(c)(i) of the RRF Regulation. Such management declaration, with the accompanying summary of audits, will provide assurance that the control systems give the necessary assurances that the funds were managed in accordance with all applicable rules, in particular rules on avoidance of conflicts of interests.

As per Article 22(2), point (b) of the RRF Regulation the Member States shall take appropriate measures to prevent, detect and correct conflict of interests as defined in Article 61 of the Financial Regulation. The Plan remains very general concerning the control of conflict of interests. The coordinating body should draft procedures for component owners and other bodies implementing reforms and investments on the verification of conflict of interests in line with Article 61 of the Financial Regulation for all beneficial owners as defined by Article 3, point 6 of the Anti-money laundering Directive. Accordingly, a milestone is included in the Plan to ensure a guidance and procedures on the avoidance and management of conflict of interests is available before the first payment request is submitted to the Commission. Following the audit carried out by the Commission services (DG REGIO, DG EMPL and DG AGRI) on other EU programmes, serious deficiencies in the design and functioning of the system to avoid a conflict of interests have been identified. Moreover, the coordinating body is

classified in category 3 by the national audit authority also for inadequate procedures to avoid conflict of interests. This means that major issues have been detected and substantial improvements are needed by the Ministry of Industry and Trade. Therefore, dedicated milestones are included in the Plan to ensure effective development and implementation of the action plan on the system that is intended to be used for the Plan in the area of conflict of interests. Moreover, a milestone on the independent audit of the effectiveness of the RRF internal control system to prevent, detect and correct situations of conflict of interests is included in the Plan as well.

The basic implementation of the components will be tracked in the systems at the level of component owners. The main IT system for the RRF will be under the responsibility of the coordinating body and is currently under development with the estimated availability at the latest by the submission of the first payment request. The aim of this system is to collect and aggregate data on milestones and targets and draw-up payment claims and reporting on progress of the Plan. A dedicated milestone on the repository system has been included in the Plan to be completed before the submission of the first payment request. The audit body will audit this system in the first system audit at the level of the coordinating body.

Adequacy of arrangements to avoid double EU funding

The Czech authorities recognize that there are risks in respect of funding from several EU and national sources. The Czech authorities will use the following mechanisms and tools to address double funding: (i) ex-ante trainings and guidance provided to the final recipients; (ii) systematic segregation of funds; (iii) double funding verification before the Grant agreement is concluded; (iv) declarations of honour; and (v) use of various registers. The fact that the implementing bodies for RRF are also involved in implementing of the ESI Funds gives prerequisite for cross-checking the data with traditional ESI Funds management systems and avoid double funding. Matrix of support and supported activities will be finalized by the coordinating body after the approval of the Plan with the objective to identify areas with a risk of potential double funding. The additional measures such as coordination, controls and audits will be put in place for such areas.

Legal empowerment and administrative capacity of control function

The legal mandate of the bodies involved in the implementation of the Plan, the description of their tasks and responsibilities was adopted in the Government resolution No 467 on 17 May 2021. Component owners are defined in the Plan (in total 11 component owners). The coordinating body is responsible for the drawing up and submitting of payment claims. The Managing Council is responsible for the approval of payment claims. The audit body is responsible for the drawing up of the summary of audits which will be signed by the head of the audit body. The Plan provides sufficient information about the administrative capacity of the coordinating body and the audit body. The coordinating body is currently assessing the personnel needs of component owners and in the Plan it is indicated that their administrative capacity will be increased.

The arrangements proposed by the Czech authorities in the Plan to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the RRF,

including the arrangements aimed to avoid double funding from the RRF and other Union programmes, are assessed as adequate. This would warrant a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

4.11 Coherence

The plan provides a comprehensive response to the consequences of the COVID-19 crises, as well as a response to the main challenges identified based on the country´s performance and the systemic weaknesses of the Czech economy. The plan builds on the global vision of Czechia as an innovative economy that drives sustainable economic growth, a modern state providing quality public services to citizens and a healthy country. By working towards all three pillars, the plan focuses on six key policy areas, which are implemented through 26 components.

Mutually-reinforcing measures

The plan presents a comprehensive package of reforms and investments. It builds to some extent on synergies among components (e.g. when complementing significant infrastructure investment with reforms to speed up the construction process and anti-corruption measures, or when applying energy efficiency requirements for public and residential buildings renovations or digital transition of the public administration). Reforms are concentrated in the first years in order to create conditions for effective and targeted investment (e.g. developing e-health systems or reform of educational curriculum) and addressing several implementation barriers (e.g. for faster construction process or buildings´ renovation). Investments in new user-friendly information system can be found in a number of components to help modernize and improve the quality and efficiency of the public services and policies (e.g. digitalization of hospitals or of judicial processes, digitalisation of schools and universities etc.).

While the overall balance between reforms and investments is ensured at the level of the plan, investment is not accompanied by relevant reforms for several measures. This applies in particular to measures to support renewable energy sources, clean mobility as well as digital and sustainable transport infrastructure. Some important reforms in healthcare are underway, but they are not a part of the plan.

No cases have been observed of areas where the measures proposed within any component (be it reforms or investments) contradict or undermine each other's effectiveness.

Complementarity of measures

The plan presents a broadly consistent vision throughout the thematic areas, components as well as regards the proposed reforms and investments.

Components from 1.1 to 1.6 pave the way for the digital transformation of the economy. The eGovernment measures aim at simplifying communication with public administration, increasing satisfaction of users, improving interoperability and optimising processes, including

across a number of components. Cybersecurity should be developed in a systemic way focusing on modernisation and expansion of police forces' capacity to detect, identify and respond to security and ICT incidents and on increasing cybersecurity of at least ten information systems. The plan aims to speed up the deployment of digital infrastructure, in particular very high capacity networks, that should serve as a backbone for further digital transformation of Czech economy and society. Digital capabilities of businesses should be focused on improving the digital skills in the sectors with strategic importance for Czechia. Finally, digital skills are part of the school curricula reform as well as support to universities under components 3.1 and 3.2.

In response to the target for achieving carbon neutrality, the green economy transition is pursued through five components focusing on reducing GHG emission. It focuses mainly on the building sector and transport while mobilizing the increase of RES and promoting climate adaptation measures. The vast renovation programme to improve energy and green performance of buildings is pursuing through the dedicated components 2.2 and 2.5 covering residential buildings as well as public buildings. The building´s renovation itself integrates a number of measures improving energy performance, integrating RES installations, as well as addressing climate adaptation or awareness-raising activities. The investment is partly combined with reforms, which are addressing implementation bottlenecks (e.g. project pipeline preparation, support for training and retraining of workers deploying green technologies, one-stop shop for project applicants).

Well-developed education components 3.1 and 3.2 are building on each other and address a key challenge of Czechia – insufficient quality and inclusiveness of education at all levels. While component 3.1 focuses on revising the curricula for primary and secondary education in order to reinforce IT education, including improving the digital skills of teachers, component 3.2 aims at addressing growing inequalities in education by providing a complex support to disadvantaged schools and at increasing the capacities of universities and adapting the study programmes to new forms of learning and new fields, in line with changing needs of the labour market. This is linked to measures, which aim at improving the quality, performance and internationalization of higher education institutions in the health sector (component 5.1) or digitalisation of innovative businesses (component 5.2). The education components combine reforms and investments in a mutually supportive way to bring about changes in the content and form of education at all levels.

A legislative reform ensuring stable financing of pre-school facilities for children below 3 years of age, while aiming at ensuring access to affordable childcare for children below 3 in all region will go along with the investment in increasing the availability of childcare services for children under the age of three which aims at increasing access to pre-school childcare for families with lower incomes and help in improving the educational outcomes of their children.

Public administration components (4.2, 4.3 and 4.4) combine reforms and investments and should create a more favourable investment framework, business environment and improve quality of public services, including at regional level. The components cover

business environment, reform of the judiciary aiming at strengthening the legislative framework and transparency in the areas of courts, judges, prosecutors and bailiffs, the fight against corruption, increasing the analytical capacities in the public administration and are closely linked to digitalisation of public administration or public services in number of components (e.g. 1.1, 1.2, 1.4, 1.6, 4.5).

Two health components focusing on investing in healthcare infrastructure and improving the education of health workers in acute care (6.1) and on increasing the resilience of the cancer prevention and care system (6.2), together with component 5.1 which focuses on excellence of research in selected medical science disciplines and new university facilities for medical and pharmaceutical studies are complementary to each other and combine both reforms and investments. Key reforms in the components 6.1 and 6.2 aim at strengthening the resilience of the health system which have been negatively affected by the COVID-19 pandemic, including in its part linked to cancer prevention and care or cardiovascular diseases. Building a centre for cardiovascular and transplant medicine under component 6.1 will be complemented by support to R&D consortium in this area under component 5.2. Establishment of the Czech Oncology Institute and Establishment and development of the Centre for Cancer Prevention and Infrastructure for Innovative and Supportive Care at the Masaryk Oncology Institute under component 6.2 is accompanied by preparing a new National Oncological Programme for the Czech Republic for 2022-2030 and the new screening programmes for cancer prevention under the same component and by support to R&D consortia projects under component 5.2. Digital transformation of healthcare is supported by appropriate measures in Components 1.1 and 1.2

As Czechia largely benefits from the Cohesion policy funds, significant complementarities are visible and in principle spelled out in the text, but level of details vary across the components. This is due to the fact that both programming documents, namely the Partnership Agreement and programmes (2021– 2027) are still pending finalisation and adoption. Therefore, an overall description of synergies at the horizontal level accompanied by summary tables offer only a first overview of intended complementarities per areas covered by both funds. This is complemented by a mechanism to avoid "double funding". All potential areas of support under the Cohesion policy funds indicated in the plan are still subject to negotiations with the Commission and cannot be prejudged on the basis of the text in the plan.

The plan does not present inconsistencies or contradictions between the different components. 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 Czechia´s recovery and resilience plan, their individual weight (size, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a medium extent, represent coherent actions. This would warrant a rating of B under the assessment criterion 2.11 of Annex V to the RRF Regulation.

ANNEX: TAGGING / COSTING

Int. Field = intervention field

Coeff. = Coefficient for the calculation of support to climate change objectives and to digital transition, on the basis of Annex VI and Annex VII of the RRF Regulation

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
1.1.1	Digital services for end users	40.03			011	100%
1.1.2	Development of open data and public data	6.36			011	100%
1.1.3	Conditions for quality data pool management and ensuring controlled data access	2.47			011	100%
1.1.4	eHealth	55.89			013	100%
1.1.5	Digital approach to justice	7.43			011quater	100%
1.2.1	Building and further development of agenda information systems	36.58			011	100%
1.2.2	Building and development of core registers and facilities for eGovernment	101.49			011	100%
1.2.3	Cyber security	105.84			021quinquies	100%
1.2.4	Centers of competence for support of eGovernment and eHealth	14.3			013	100%
1.2.5	Building and development of systems supporting eHealth	12.76			095	100%
1.2.6	Creating the conditions for digital justice	6.09			011quater	100%
1.3.1	Improve the environment for the deployment of electronic communications networks	62.84			053	100%
1.3.2	Supporting the development and further development of the 5G ecosystem	1.45			054	100%
1.3.3	Building high-capacity connections	111.93			053	100%
1.3.4	Coverage of the 5G corridors and support for the	27.49			054bis	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
	development of 5G networks					
1.3.5	Coverage of "white" municipalities in the investment-difficult places in rural areas by the 5G signals	11.78			054bis	100%
1.3.6	Research and development activities related to the development of 5G networks and services	11.78			054bis	100%
1.4.1	Reform: Institutional reform of the coordination and support system for digital transformation of economy (incl. RIS 3)	0.35			021ter	100%
1.4.1.1	European Centre of Excellence in AI "for Citizens Safety and Security"	9.39			009bis	100%
1.4.1.2	European Digital Media Observatory Hub (EDMO)	1.69			021ter	100%
1.4.1.3	Digital Transformation of best practice and know-how - establishement of strategic think-tank (Samuel Neaman Institute)	6.68			021ter	100%
1.4.1.4	Digital Transformation Platform	4.32			021ter	100%
1.4.1.5	European Blockchain Services Infrastructure (EBSI) - DLT bonds for SME financing	8.84			010	100%
1.4.1.6	5G Demonstration projects	43.2			010bis. 021ter	100%
1.4.2	Reform: Institutional support for start-ups - EU Startup Nations Standards	0.35			010	100%
1.4.2.1	Czech Rise-Up	23.56			010	100%
1.4.2.2	Entepreneurship support post-COVID-19	5.89			018	40%
1.4.2.3	Pre/seed. digital strategic	54.98			010	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
	technologies and spin-off investment funds					
1.4.2.4	Start-up internationalization	8.44			015	40%
1.4.2.5	Regulatory sandboxes	5.89			010	100%
1.4.3	Certification of strategic technologies	4.32			009bis	100%
1.4.3.1	Quantum Communication Infrastructure (QCI)	7.07			021 quarter	100%
1.4.3.2	Digitization of aviation industry	39.27			009bis	100%
1.5.1	Reform: The Creation of The Platform for the digitasation of the industry	0.39			010	100%
1.5.1.1	European and National Digital Innovation Hubs e/DIH	8.68			010	100%
1.5.1.2	European Reference and testing facility	5.66			010bis	100%
1.5.1.3	Programmes for digital transformation of manufacturing and non-production companies and increasing resilience (including cybersecurity)	181.64			010	100%
1.6.1	Implementation of the recodified construction law and zoning law into Practice	36.35			055	100%
1.6.2	Creation of new Information system for the agenda	12.98			011	100%
1.6.3	Development and use of Public sector data in area planning	0.97			055	100%
1.6.4	Full use of Benefits from Digital Proceedings	6.49			055	100%
2.1.1	New technologies and digitization on railway infrastructure	37.51	070	40%	070	100%
2.1.2	Electrification of railways	263.76	066bis	100%		
2.1.3	Improving the environment	453.69	069	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
	(railway infrastructure support)					
2.1.4.1	Increasing safety at railway crossings	120.3	069	40%		
2.1.4.2	Construction objects	43.75	069	40%		
2.1.4.3	Protection of vulnerable road users (cyclists. pedestrians)	23.56	075	100%		
2.2.1	Implementation of energy-saving measures in the renovation of state buildings	113.62	026bis	100%		
2.2.2	Implementation of energy-saving measures to renovate public lighting systems	81.97	026bis	100%		
2.2.3	Implementation of energy-saving measures in the renovation of public buildings	129.02	026bis	100%		
2.3.1	New fotovoltaic energy sources	196.37	029	100%		
2.3.2	Modernization of distribution of heat in district heating system	65.2	034bis0	100%		
2.4.1.1	Construction of public transport infrastructure (Prague)	47.13	073	100%		
2.4.1.2	Building non-public infrastructure	11.78	077	100%		
2.4.1.3	Building recharging points for residential buildings	5.66	077	100%		
2.4.2.1	Vehicles (el. H2) for business including E-cargo bikes	36.92	077	100%		
2.4.2.2	Vehicles (el. H2) and non public charging stations for municipalities. regions. state administration	23.56	077	100%		
2.4.2.3	Vehicles (battery trolleybuses and low-floor trams) for public transport in the City of Prague	66.77	074	100%		
2.5.1	Renovation and revitalization	332.17	025bis	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
	of buildings for energy savings					
2.5.2	Replacement of stationary sources of pollution in households with renewable energy sources and installation of RES	283.16	032	100%		
2.6.1	Flood protection	99.36	040	40%		
2.6.2	Support of measures on small water courses and small water reservoirs	62.84	040	40%		
2.6.4	Implementation of Land consolidation with a positive effect on the prevention of erosion and the capture of precipitation	32.46	050	40%		
2.6.5	Building forests resilient to climate change	335.4	037	100%		
2.6.6	Retention of water in forests	11.78	040	40%		
2.7.1.1	Building recycling infrastructure	62.84	045bis	100%		
2.7.2.1	Circulatory solutions in businesses	39.27	047bis	40%		
2.7.2.2	Water saving in industry	39.27	047bis	40%		
2.8.1	Investment support for revitalization of specific areas	55.85	026	40%		
2.8.1	Investment support for revitalization of specific areas	23.96	025ter	40%		
2.8.2	Investment support for the revitalization of areas in public ownership for non-business use	25.14	026	40%		
2.8.2	Investment support for the revitalization of areas in public ownership for non-business use	6.28	046bis	40%		
2.8.3	Investment support for the revitalization of areas in public ownership for business	13.75	026	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
	use					
2.8.3	Investment support for the revitalization of areas in public ownership for business use	5.89	025ter	40%		
2.9.1	Protection against drought and nature close flood protection of the city of Brno	29.93	040	40%		
2.9.2	Rainwater management	38.96	040	40%		
2.9.3	Specially protected areas and Natura 2000 sites and specially protected species of plants and animals	21.4	050	40%		
2.9.4	Adaptation of aquatic. non-forest and forest ecosystems to climate change.	26.9	037	100%		
3.1.2	Implementation of the curricula reform and the DigCompEdu Framework	22.07			108	100%
3.1.3	Digital Equipment for Schools	168.68			012	100%
3.3.1.1	Development of employment policy (retraining and continuing professional training) - digital competencies	127.64			108	100%
3.3.1.2	Development of employment policy (retraining and continuing professional training) - competencies needed for digital transition and for addressing the needs of Industry 4.0	127.64			016	40%
3.3.1.4	Development of employment policy (retraining and continuing professional training) - Creation of a database of reskilling and upskilling courses	0.39			011	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
3.3.2	Capacity building of pre-school facilities	50.35	025ter	40%		
3.3.2	Capacity building of pre-school facilities	60.42	026	40%		
3.3.2	Capacity building of pre-school facilities	90.53	026bis	100%		
3.3.3.1.1	Development of social care infrastructure (creation of new capacities of community-based. outpatient and field social services)	109.03	025ter	40%		
3.3.3.1.2	Development of social care infrastructure (reconstruction of community-based. outpatient and field social services. including facilities. reconversion of existing capacity)	109.03	026	40%		
3.3.3.1.3	Development of social care infrastructure (reconstruction of community-based. outpatient and field social services. including facilities. reconversion of existing capacity)	109.03	026bis	100%		
3.3.3.2.2	Development of social prevention. counseling and care services through the renewal of the electric vehicle fleet - electric cars	3.57	077	100%		
3.3.3.2.3	Development of social prevention. counseling and care services through the renewal of the electric vehicle fleet - hybrid cars	5.38	077	40%		
4.2.2	New quasi-equity instruments to support entrepreneurship	39.27	047	40%		
4.5.4	Digitalisation of the cultural and creative sectors	31.42			021bis	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR mn)	Climate		Digital	
			Int. field	Coeff. %	Int. field	Coeff. %
4.5.6	Creative vouchers	21.99			020	40%
5.2.2	Supporting the uptake of innovation in business practice	39.27			020	40%
5.2.4	Aid for research and development in the environmental field	7.85	022	100%		
5.2.6	Aid for R & D in synergy effects with the Framework Programme for Research and Innovation	19.64			015	40%