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Analysis of the recovery and resilience plan of Croatia

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

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

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Table of contents

1. Executive summary	2
2. Recovery and resilience challenges: scene-setter	6
2.1. Macroeconomic outlook and developments since the 2020 country report	6
2.2. Challenges related to sustainable growth, cohesion, resilience and policies for the next generation.....	8
2.3. Challenges related to the green and digital transition	11
Green dimension.....	11
Digital dimension	15
3. Objectives, structure and governance of the plan.....	21
3.1. Overall strategy of the plan	21
3.2. Implementation aspects of the plan	24
4. Summary of the assessment of the plan	28
4.1. Comprehensive and adequately balanced response to the economic and social situation	28
4.2. Link with country-specific recommendations and the European Semester.....	33
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.....	41
4.4. The principle of ‘do no significant harm’	48
4.5. Green transition	50
4.6. Digital transition.....	56
4.7. Lasting impact of the plan.....	59
4.8. Milestones, targets, monitoring and implementation.....	61
4.9. Costing	64
4.10. Controls and audit.....	66
4.11. Coherence	70
ANNEX: Climate and digital tracking table.....	73

1. EXECUTIVE SUMMARY

The COVID-19 pandemic has had a detrimental impact on the Croatian economy. Croatia's economy contracted by 8% in 2020, the steepest drop on record and among Central and Eastern European countries. This was primarily due to major difficulties experienced by the tourism sector linked to restrictions on travel and providing contact-based services. The labour market has been impacted as well, albeit to a smaller extent. The unemployment rate increased by 0.9 percentage points to 7.5%. This relatively mild increase can be attributed to the rather brief and moderate nature of containment measures and to the government incentives to retain the workforce, that were largely financed using SURE¹ and European Structural and Investment (ESI) Funds. After the sharp drop in economic activity, a swift recovery is predicted in the Commission 2021 Spring Forecast for the following years. Real GDP growth is forecast to be 5.0% in 2021 and 6.1% in 2022, with the unemployment rate falling to pre-crisis level by 2022. As a result of the contraction in economic activity and increased government expenses due to support measures, public finances have also been negatively affected. The government balance deteriorated to a deficit of 7.4% of GDP in 2020, ending the positive trend of three consecutive budget surpluses. The debt ratio is expected to have peaked in 2020 at 88.7% of GDP and should resume declining in 2021 and 2022.

Structural weaknesses in the Croatian economy weigh on the economic recovery and hinder its long-term sustainable growth. Croatia's business environment is burdensome, complex and restrictive and the public administration's efficiency in Croatia ranks below the EU average, partly due to territorial fragmentation. There is a need to strengthen the framework to prevent, detect and correct corruption. Research and development intensity remains relatively low and there is scope to significantly improve education outcomes. Employment and labour market activity rates are among the lowest in Europe, partly due to skills gaps and mismatches.

Croatia's recovery and resilience plan has an estimated total cost of EUR 6.4 billion and is structured around five priorities - i) economy, (ii) public administration, judiciary and state, (iii) education, science and research, (iv) labour market and social security, (v) health care - **and one initiative** for renovating buildings. It consists of 222 individual measures (76 reforms and 146 investments). The estimated total cost of the plan is above the non-repayable financial support available to Croatia under the RRF Regulation of EUR 6.3 billion. Croatia has not requested any loans under the RRF Regulation.

Croatia's plan represents to a large extent a comprehensive and adequately balanced response to the economic and social situation, therefore contributing appropriately to the six policy pillars referred to in Article 3 of the Regulation². The plan supports the green transition through several components by focusing on climate-related and environmental measures and on preserving biodiversity. Digital measures are included in

¹ Support to mitigate Unemployment Risks in an Emergency (SURE)

² [Regulation \(EU\) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility](#) (hereafter 'the Recovery and Resilience Facility Regulation').

most of the components of the Croatian plan reflecting the broad and cross-cutting nature of the envisaged digitisation efforts. Furthermore, numerous components contribute to smart, inclusive and sustainable growth, including through measures to improve the business environment, support SMEs and large enterprises, innovation and R&D. Moreover, social cohesion is strengthened mainly through active labour market policy measures and by providing support to appropriate skills development tailored for vulnerable groups. As one of the critical sectors for achieving crisis preparedness and resilience, the health sector is specifically supported by a dedicated component in the recovery and resilience plan. Measures to support the development of family and community-based services in the area of long-term care and to strengthen the public administration should contribute significantly to institutional resilience. Finally, investments in education, research and innovation target specifically children and the youth and are therefore essential to support the education and future of the next generation.

Generally, the plan constitutes a comprehensive package of reforms and investments addressing all or a significant subset of the challenges and recommendations identified in the European Semester. The plan addresses the country-specific recommendations with reforms to reinforce the budgetary framework, active labour market policy measures and the implementation of the education reform by improving access to education and its quality and labour market relevance. The challenges faced by the Croatian healthcare system are addressed by measures to improve the efficiency, quality, accessibility, and financial sustainability, which was especially stricken by the COVID-19 pandemic. Furthermore, through advancing the decarbonisation of the energy sector, increasing overall energy efficiency, and focusing investments on sustainable transport and digital infrastructure and services, the plan addresses country-specific recommendations in those areas. Finally, the plan contains far-reaching measures to improve the efficiency of the public administration and justice system, to prevent, detect and correct corruption, to improve the business environment and to support investment in and policy relevance of research and innovation.

The Croatian recovery and resilience plan envisages to address some of the social and economic challenges that have emerged or were exacerbated during the COVID-19 crisis and two major series of earthquakes in 2020. The plan includes various interventions in social policies, aimed at, among others, expanding access to early childhood education and care, developing digital solutions to exchange data on social benefits, introducing social mentoring services to promote employment and social inclusion and increasing long-term care capacity. In addition, funding under the RRF for building renovation will support the regions that were hit by earthquakes.

The recovery and resilience plan contributes to climate objectives for 40.3% of Croatia's allocation of EUR 6.3 billion, surpassing the climate target of 37%. Planned measures in the Croatian plan are aligned with the National Energy and Climate Plan and are thus expected to directly contribute to reaching EU's 2030 climate targets, but also to support transition towards climate neutrality by 2050. The plan includes support of EUR 3.3 billion to the climate and environmental objectives, notably through significant reforms and investments promoting energy efficiency, renewable energy, and sustainable mobility. Significant energy savings in final and primary energy consumption are expected from energy efficiency measures in industrial processes and building renovation addressing earthquake consequences. Legislative reforms addressing administrative and regulatory

obstacles to unlock the potential for renewable energy are accompanied by investments upgrading the electricity grid to enable additional uptake of renewable energy sources. Furthermore, the plan will support the development of infrastructure for low-carbon transportation modes, specifically by decarbonising public transport, road and coastal traffic, as well as the electrification and digitalisation of road and air transport. Investments in carbon capture and geological storage are expected to contribute to climate mitigation in the longer run. Climate change resilience is addressed with investments in flood risk mitigations. All measures in the Croatian plan have passed the ex-ante assessment of the ‘do no significant harm’ principle.

The recovery and resilience plan contributes to the digital objective for 20.4% (close to EUR 1.3 billion) of Croatia’s allocation of EUR 6.3 billion, thus achieving the digital target of 20%. Specific support for the digital transition in most components of the recovery and resilience plan reflects the broad and cross-cutting nature of the envisaged digitalisation efforts that will be further embedded in a new strategic framework “Croatia’s 2030 Digital Strategy”. Tackling the urban-rural digital divide will be pursued by increasing the national broadband coverage with very high-capacity networks (VHCN) where commercial interest is insufficient. Citizens and businesses will benefit from the digital transition of the public administration, strengthening the interoperability of digital services, as well as by harmonising and centralising the helpdesk system of all public administrations’ online services and significant investments to expand the capacity of the State Cloud. Education will benefit from investments to support digital skills development with particular attention to the digital shift of higher education. Businesses in the cultural and creative sectors will also benefit from special support for digitalisation.

The implementation of the investments and reforms envisaged in the plan is expected to bring a lasting impact, reinforce structural changes in several policies areas and will help strengthen institutional resilience. Investments in clean energy, modernising the transport system, and the digital and green transition will help foster greater sustainability of the economy. Given that the tourism sector is one of the main drivers of growth in Croatia, investments in inland tourism and extending the tourist season together with the transition to a greener tourism sector will strengthen its sustainability. Investments in the digitalisation and capacity of the public administration and measures improving design, implementation, coordination and management of public policies, enhancing corporate governance in strategic SOEs and reducing the administrative burden on citizens and businesses, are expected to lead to higher productivity and thus have a positive lasting impact. The measures aimed to improve the education system, introduce structural changes in the Croatian R&I ecosystem, and increase employability in youth and vulnerable groups will also positively affect potential growth in the long term. Overall, the plan addresses many of the country's core problems in the areas of labour market, productivity, business environment, and competitiveness challenges.

The overall implementation of the plan will be monitored by the Croatian Ministry of Finance that will appoint relevant implementing bodies depending on the scope of the measures included under the specific component. At the same time, components containing measures with a broader scope will involve multiple ministries and agencies. The milestones and targets of the Croatian plan constitute an appropriate framework to allow the efficient monitoring of its implementation. The proposed qualitative and quantitative indicators used

for the milestones and targets are sufficiently clear, realistic and comprehensive to ensure that their completion can be traced and verified. Where compliance with the Do No Significant Harm principle cannot be ascertained in advance, the milestones and targets associated with the measure layout adequate safeguards for compliance. The large number of milestones and targets appears commensurate to the size of the reform and investment package; however, the implementation of the plan will crucially hinge on the administrative and implementation capacity of the implementing bodies which will be reinforced and needs to be closely monitored to ensure such capacity is adequate to the challenge.

Based on the assessment of a clear breakdown of costs for each investment and reform and related supporting documents, the estimated total cost of the plan appears reasonable and plausible. The plan provides adequate explanations on the methodology used for establishing the cost estimates for a clear majority of measures. Furthermore, by providing sufficient information and evidence that the estimated total costs of the recovery and resilience plan align with the nature and type of the envisaged investments, the plausibility of costs has been assured. The non-repayable financial contribution of the Recovery and Resilience Facility is planned to fully fund most of the measures contained in the plan, thus mitigating the risk of double funding. In addition, sufficient information has been provided to prevent such risk in cases of using other funding sources. In general, the estimated total cost of the plan corresponds to the expected national economic and social impact and is aligned with the principle of cost-efficiency. Nonetheless, the lack of clarity of information and evidence provided on the reasonability and plausibility a limited number of cost estimates precludes the highest rating of this assessment criterion.

The Croatian plan adequately describes the system for the implementation of the audits and controls. The system presents a robust process and structure, where the roles and responsibilities are clearly defined. The relevant control functions are appropriately segregated in line with the applicable Union and national law. For the management and monitoring of the implementation of the plan, the Croatian authorities will use an upgraded IT system. The proposed measures give assurance that there is an adequate level of control to prevent, detect, and correct irregularities identified when using funds provided by the Facility.

The plan's five components and the initiative represent a package of coherent reforms and investments, which are mutually reinforcing or complementary, since they aim to act in synergy while considering Croatia's development potential and development challenges at regional, national, European and global levels.

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

2. RECOVERY AND RESILIENCE CHALLENGES: SCENE-SETTER

2.1. Macroeconomic outlook and developments since the 2020 country report

The COVID-19 crisis had a particularly detrimental impact on the Croatian economy, while policy measures cushioned the impact on household incomes. Croatia's economy contracted by 8% in 2020, the steepest drop on record and among peer countries. The drop in output was concentrated in the first half of 2020, followed by strong growth in the ensuing quarters. The impact was largely due to the particular difficulties of the tourism sector. Private consumption also took a strong hit, while household incomes remained relatively shielded. Emergency measures to protect incomes during the crisis, together with the pre-existing tax-benefit system, cushioned about 85% of the household market income losses in Croatia, with more than half of the effect due to monetary compensation schemes³.

According to the Commission 2021 Spring Forecast, real GDP growth is forecast to bounce back to 5.0% in 2021 and to 6.1% in 2022. The recovery is set to be rather quick and broad-based as tourism starts to recover, while private consumption is set to obtain a boost from demand and accumulated savings as constraints on the consumption of services ease. Investment is expected to be an important driver of growth in the coming period, driven by post-earthquake reconstruction and substantial ESIF and RRF funds. Inflation dropped to 0% in 2020 and is expected to remain moderate (1.3% in 2021 and 2022) despite the expected pick-up in economic activity.

The labour market took a relatively mild hit given the size of the economic contraction and is expected to recover gradually. After several years of falling unemployment, the onset of the COVID-19 crisis reversed this trend and led to a decrease in employment of 1.2%. Job losses were recorded in the first three quarters of 2020, after which job creation resumed. The unemployment rate increased to 7.5%, which is still lower than the level in 2018. This relatively mild increase can be attributed to the relatively brief and mild nature of the COVID 19 containment measures and incentives by the government to retain the workforce. In the 2021 Commission Spring Forecast, an increase in employment of 0.6% and 1.4% is expected for 2021 and 2022 respectively, with the unemployment rate falling to pre-crisis values (6.6%) in 2022. The proportion of the population at-risk-of poverty or social exclusion declined pre-COVID-19, albeit remaining above the EU average (23.3% vs EU27 20.9% in 2019).

After the third consecutive year of surplus in 2019, the general government balance deteriorated sharply in 2020 with the debt ratio increasing significantly. Driven by automatic stabilisers and measures on both the revenue and expenditure side of the budget,

³ Findings based on the Euromod model: 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.

the general government balance deteriorated to a deficit of 7.4% of GDP in 2020. The sharp economic contraction impacted revenues, while measures aimed at preserving employment and businesses during the pandemic significantly increased expenditure. The general government deficit is expected at 4.6% in 2021 and 3.2% of GDP in 2022. After declining for five years, the debt ratio is set to spike in 2020 at 88.7% of GDP, but should resume declining in 2021 and 2022. Overall, the debt sustainability analysis on the basis of the Commission's spring forecast indicates medium risks over the medium term.

Croatia's economy remains burdened by imbalances mainly related to high levels of private, public and external debt in the context of low potential growth. Private sector debt increased in 2020 due to the strong contraction in output. The positive contribution of net lending was smaller than in previous years as companies and households focused on refinancing existing loans and delayed investment and spending decisions. In 2021, private sector debt is expected to return to a downward trajectory, supported by the economic recovery. An increase in corporate insolvencies after the ending of government support measures might pose risks. Similarly, the public debt ratio reached its highest level on record (88.7% of GDP) in 2020, but it should return to a declining trend in 2021 as economic output recovers. The negative net international investment position (NIIP) worsened slightly to -52% of GDP in 2020, but should resume its pre-pandemic upward trajectory already in 2021, reaching the prudential benchmark in 2022. House prices continued their upward trend in 2020 rising by 7.4%, which continues to put pressure on housing affordability. Croatia's external liabilities remain high but their increase was mitigated by a sizeable inflow from the capital account. Structural weaknesses in the Croatian economy weigh on its economic recovery and hinder its long-term sustainable growth.

The Croatian banking sector remains well capitalised and profitable, although the decline in non-performing loans was halted by the pandemic. With a return on equity of 5.7% in 2020-Q2 (1.1% in the EU), profitability dropped from the previous year (11.3% in 2019-Q2). However, Croatian banks remain very well capitalised (with a CET1 ratio of 22.1% compared with 15.4% in the EU). The share of non-performing loans (NPLs) increased slightly to 5.4% in the third quarter of 2020, but is still much lower than in previous years (13.6% in 2014) and provisioning is high with a coverage ratio above 66%. The banking system improved its asset quality in recent years partly as a result of improved supervision. As of October 2020, the ECB exercises direct supervision over significant institutions in Croatia. The ECB's comprehensive assessment, which was finalised in June 2020, resulted in no additional capital needs.

Table 1. Comparison of macroeconomic developments and forecast

	2019		2020		2021		2022		2023	2024	2025	2026
	COM	COM	RRP	COM	RRP	COM	RRP	RRP	RRP	RRP	RRP	RRP
Real GDP (% change)	2.9	-8.0	-8.0	5.0	5.2	6.1	6.6	4.1	3.4	2.7	2.2	
Employment (% change)	3.1	-1.2	-1.2	0.6	2.3	1.4	1.6	1.6	1.4	1.1		

Unemployment rate (%)	6.6	7.5	7.5	7.2	7.0	6.6	6.5	6.0	5.7		
HICP inflation (% change) ⁴	0.8	0.0	0.2	1.3	2.0	1.3	1.7	2.0	2.3		
General government balance (% of GDP)	0.3	-7.4	-7.4	-4.6	-3.8	-3.2	-2.6	-1.9	-1.5		
Gross debt ratio (% of GDP)	72.8	88.7	88.7	85.6	86.6	82.9	82.5	79.5	76.8		

Source: Commission Spring Forecast 2021 (COM); Recovery and resilience plan (RRP)

The authorities' scenario underpinning the RRP is based on plausible macroeconomic assumptions. Compared to the Commission's spring forecast, the scenario in the recovery and resilience plan (which is the same as the scenario from the 2021 Convergence Programme) projects somewhat stronger growth in 2021, and particularly 2022. This is most notably a result of the authorities' higher projections of household consumption and investment, while the Commission's forecast is slightly more optimistic on the contribution of exports. Similarly, the reaction of the labour market is faster and stronger in the plan's scenario. The authorities' scenario also projects a stronger decrease in the general government deficit. The differences are most pronounced on the revenue side, which the plan projects to rebound very strongly. Overall, the differences between the recovery and resilience plan and the Commission scenarios are not extensive, particularly in a context where both the macroeconomic and fiscal outlook continue to be affected by high uncertainty related to the COVID-19 pandemic and its economic consequences.

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

Structural weaknesses in the Croatian economy weigh on the economic recovery and hinder its long-term sustainable growth. Total factor productivity (TFP) lags behind that of Croatia's peers and the EU average due to lower intrinsic productivity levels in Croatian firms (Bauer et al. 2020)⁵. Structural rigidities that reduce productivity, hamper growth and the pace of recovery include an inefficient public administration, a cumbersome business environment, a large presence of the state in the economy, an inefficient allocation of labour resources and skills shortages, and low investment in R&D and digital infrastructures, as well as a low number of high-growth enterprises (HGEs) that account for a low share of employment (Flachenecker et al, 2020)⁶.

Croatia's business environment is burdensome, complex and restrictive. Businesses are held back by large regulatory and administrative burdens, such as para-fiscal charges and

⁴ The Croatian authorities' projections of inflation are based on the Consumer Price Index (CPI), rather than the Harmonised Index of Consumer Prices (HICP).

⁵ Bauer, P., Fedotenkov, I., Genty, A., Hallak, I., Harasztosi, P., Martinez Turegano, D., Nguyen, D., Preziosi, N., Rincon-Aznar, A. and Sanchez Martinez, M., (2020), Productivity in Europe: Trends and drivers in a service-based economy, JRC. Annex 8 – Factsheet Croatia.

⁶ Flachenecker, F., Gavigan, J., Goenaga Beldarrain, X., Pasi, G., Preziosi, N., Stamenov, B. and Testa, G. (2020), High Growth Enterprises: demographics, finance and policy measures, Annex 4.1 to the JRC Technical Report. EUR 30077 EN.

heavy procedures to start a business. Despite the gradual removal of some restrictive regulations for products and the services markets over recent years, services and professions remain highly regulated, hampering firms' competitiveness and productivity. Small firms recorded a more rapid catch-up in productivity and business dynamism due to increased exports after 2014 (Bauer et al. 2020). To ensure sufficient resilience capacity for companies, efforts to relieve costly administrative burdens on businesses need to be sped up.

The efficiency of the public administration in Croatia ranks below the EU average. Low capacity to design, implement and evaluate policies and projects hampers effectiveness and speed. Initiatives to strengthen the public administration's capacity to design and coordinate the implementation of policies at the central level, coupled with the reform of the civil service are key to ensure the absorption of EU Funds, including the Recovery and Resilience Facility.

High fragmentation of the public administration, including across the territory, leads to inconsistencies and an imbalance between responsibilities and resources at local level. The wage-setting framework lacks consistency and transparency across the public administration and the civil service. This affects equality of treatment and hinders central control over the public wage bill. Ongoing work on setting up a standardised wage-setting framework across the public administration and public services is essential.

Efforts to strengthen the judiciary system and the framework to prevent, detect and correct corruption are key to achieving an efficient, accountable and transparent allocation and distribution of funds and resources, particularly at local level, and ensure available resources effectively support the recovery in the aftermath of the COVID-19 crisis. The need to enhance oversight mechanisms for local officials and appointees to local public companies remains, as does the need to ensure the prevention of conflicts of interest. There is scope for further strengthening Croatia's judiciary by further reducing delays in court decisions and by extending electronic communication. More intensive continuous training for judges in emerging areas of law should also result in greater court practice consistency. Initiatives to facilitate and ensure the use of out-of-court methods of dispute resolution also need to be followed through.

Croatia's research and development intensity remains low. Micro companies and SMEs continue to be weak innovators as government support programmes are heavily skewed towards large companies. Academia and business interaction is limited, while fragmented financing programmes fail to raise firms' innovation capacity or adequately direct resources to micro-enterprises, spin-offs and start-ups, while equity markets for innovators are underdeveloped. Croatia would benefit from better consolidating its public science base, investing more in research and innovation (R&I) and embedding it in its business environment to fully leverage R&I as a key driver for growth.

Unaddressed labour market challenges in Croatia have a negative effect on economic growth and resilience. Challenges include low labour market participation, pronounced labour shortages, high regional disparities in employment and social outcomes, and high incidence of undeclared work. Employment and activity rates in Croatia are among the lowest in the EU. A comprehensive strategy targeted at the inactive population could increase the labour contribution to growth. Despite high unemployment, labour shortages persist in some sectors of the economy (industry, construction, services). This is mainly because of skills gaps, but factors such as ageing, emigration and low job quality also play a role. A high

incidence of undeclared work is caused by various factors (e.g. low quality of job offers, high share of precarious employment, etc.), which all need addressing if formal employment and economic growth are to be promoted. The acquisition of adequate skills, including digital skills, during initial education and training and later reskilling and upskilling, could raise productivity, close skills gaps and foster declared employment.

The coverage and poverty-reduction capacity of social transfers, including minimum income schemes, is low. Croatia's fragmented social protection system is ineffective in easing labour market and social disparities, resulting in levels of poverty above the EU average. Unemployment benefits do not provide an adequate safety net for dismissed workers, as both the coverage and adequacy are low. Participation of older workers (55-64) in the labour market is feeble, thus contributing to low pension adequacy and higher risk of poverty or social exclusion in old age. Long-term care is underdeveloped, and as a result requires a strategy to ensure quality service and reduce out-of-pocket costs. Organisation of care at the community level as an alternative to institutionally provided care is progressing, but very slowly. Negative demographic trends further amplify the existing challenges in the labour market and the social protection system.

Croatia is facing challenges at all levels of education, which have been aggravated by COVID-19 and the earthquakes. Croatia's early childhood education and care (ECEC) participation remains one of the lowest in the EU. Challenges to increasing the participation rate include a lack of places in ECEC and a shortage of ECEC teachers, decentralised governance, regional differences, and costs. The performance of pupils in basic skills as measured by PISA is below the EU average; the shares of underperformers in maths (31.2%; EU-27 22.9%) and science (25.4%; EU-27 22.3%) are among the highest in the EU. The COVID-19 crisis further aggravated the situation, mainly through the learning loss suffered by students, which can have long-term negative consequences on human capital, productivity growth, innovation and employment, as well as future earnings (Di Pietro et al, 2020)⁷.

Measures are being taken to increase the quality of education through curricular reform and an e-Schools project, which has helped develop digital education. Nevertheless, educational outcomes are negatively affected by the low annual instruction time in primary and lower secondary education, short compulsory education and schools working in shifts due to infrastructure shortages (which have been exacerbated by the earthquakes in 2020). In addition, tertiary education attainment is one of the lowest in the EU (33.1%; EU-27 40.3%), below the national 2020 target of 35%, while the number of students is declining. Participation in adult education is also very low (3.5% vs EU average of 10.8% in 2019). The educational offer of advanced digital skills in universities is also very limited (Righi et al. 2020)⁸, with a large demand that remains unmet (Gomez Losada et al. 2020)⁹.

⁷ Di Pietro G., Biagi F., Costa P., Karpiński Z., Mazza J. (2020) The likely impact of Covid-19 on education: Reflections based on the existing literature and recent international datasets, JRC Technical Report, JRC121071

⁸ Righi, R., López-Cobo, M., Alaveras, G., Samoili, S., Cardona, M., Vázquez-Prada Baillet, M., Ziembra, L.W., and De Prato, G. (2020), Academic offer of advanced digital skills in 2019-20. International comparison. Focus on Artificial Intelligence, High Performance Computing, Cybersecurity and Data Science, JRC Technical Report.

Regional disparities (at county level) in Croatia are significant, and these differences are particularly pronounced between Zagreb and the rest of the country. Taking account of the large economic disparities (particularly at county level) when designing and implementing the plan's measures is crucial to pursuing inclusive and uniform growth. Such disparities could be better addressed through more homogenous, transparent and effective public administrations across the country. Reducing the fragmentation of local administrations' handling of resources and strengthening the framework on corruption prevention, detection and correction at local level would also help increase absorption capacity and ensure a more efficient and even use of EU funds.

Accumulation of debts and geographical obstacles create challenges for the Croatian health system. A lack of coordination between the hospital managing authorities, particularly at county level, and at government level underlines the inefficiencies of the system. Challenges stemming from the outbreak of COVID-19, coupled with the devastation caused by earthquakes in March and December 2020, put an extraordinary strain on the health system. The uneven distribution of health resources exacerbates these challenges.

2.3. Challenges related to the green and digital transition

Green dimension

The recovery and resilience plan should contribute to the green transition and at least 37% of the invested amount needs to constitute climate related expenditure. The measures in the plan will contribute to achieving the 2030 energy and climate targets (as set out in the National Energy and Climate Plan) as well as to a climate-neutral economy of the Union by 2050. They 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, while ensuring that nobody is left behind.

Climate and energy policies

Croatia is among the EU Member States with the lowest greenhouse gas emissions (GHG) per capita, though GHG intensity remains higher than the EU average despite its improvement¹⁰. Between 1990 and 2019, Croatia's total GHG emissions fell by 22%, slightly less than the EU total, while the GDP per capita increased by 22%.

Two NUT3 level regions stand out in terms of their GHG emissions: Istria County (coal power plant Plomin and cement industry) and Sisak – Moslavina County (oil refinery

⁹ Gómez Losada, Á., López-Cobo, M., Samoili, S., Alaveras, G., Vázquez-Prada Baillet, M., Cardona, M., Righi, R., Ziemba, L., and De Prato, G. (2020) Estimation of supply and demand of tertiary education places in advanced digital profiles in the EU. Focus on Artificial Intelligence, High Performance Computing, Cybersecurity and Data Science, JRC.

¹⁰ GHG intensity is the ratio between GHG emissions and GDP.

and fertiliser production). The latter is among the most deprived regions in Croatia and was struck by a devastating earthquake in December 2020.

Croatia is on course to surpass the 2030 target for greenhouse gas reduction, if the policies set out in the National Energy and Climate Plan are implemented. Croatia's binding 2030 target for greenhouse gas emissions not covered by the EU emissions trading system (i.e. non-ETS), is to achieve a 7% reduction compared to 2005 levels. Croatia has also set the indicative target to reduce the emissions in ETS sectors by at least 43% compared to 2005 levels. In June 2021, Croatia adopted its long-term strategy for decarbonisation, setting a goal of 80% emission reductions by 2050, compared to the 1990 baseline.

Croatia's National Energy and Climate Plan (NECP) estimates investment needs to around EUR 19 billion for 2021-2030 period, corresponding to 3.5% of GDP. The majority of investments are planned for energy efficiency in the building sector (construction and renovation), and electricity production. The updated NECP submitted in 2021 includes a higher target for the share of renewables in transport, which should positively contribute to the decarbonisation of the transport sector.

The transport sector continues to be the largest contributor to GHG emissions, followed by energy supply. Transport emissions account for more than 25% of the Croatian emissions, and have been sharply increasing in recent years. The Croatian railway network is underdeveloped and substantial investments would be needed to make it a credible alternative to road transport, both for cargo and passenger transport. Deployment of infrastructure for alternative fuels on roads (as well as air, maritime and inland waterway transport), coupled with the promotion of zero-emission vehicles, could help reduce greenhouse gas emissions.

Climate change is likely to pose major sustainability challenges to Croatia, particularly given its growing vulnerability to climate risks, especially floods and forest fires.

Air quality in Croatia is giving cause for concern. In 2018, about 5,100 premature deaths were attributable to fine particulate matter concentrations, far above the EU average. Accelerating the reduction of particulate matter emissions and concentration is key, in particular in agglomerations Zagreb and Osijek, and the area of Industrijska zona (from Sisak to Slavonski Brod).

Renewables and energy efficiency

Croatia has already exceeded its 2020 target for renewable energy, but there is untapped potential to exploit wind and solar power. In 2019, the share of renewable energy was 28.5%, notably thanks to Croatia's legacy of hydropower industry. Still, Croatia's contribution to the EUs 2030 renewable energy target is set at 36.4%, well above the 32% recommended by the Commission¹¹. Croatia has untapped potential to further develop renewable energy sources, especially in its coastal and island regions. The current regulatory framework is constraining the development of renewable energy sources. The share of





¹¹ In line with the formula in Annex II of the Governance Regulation, the Commission issued recommendations with regards to Member States' ambitions on renewables.

renewable energy sources in the transport sector (5.9 % in 2019) is one of the lowest among EU Member States and Croatia did not meet the 2020 target of 10 %. Table 2 gives an overview of Croatia'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.

In Croatia, the residential sector accounts for over a third of total energy consumption, well above the EU average. Croatia has great potential to increase its energy efficiency, in particular in the building sector, as well as in district heating and cooling. The national contribution to the energy efficiency target specified in Croatia's NECP is low, at 8.23 Mtoe for primary energy and 6.85 Mtoe for final energy consumption. Croatia has significantly increased its plans for annual renovation rate, from 0.7% to 3% in 2030, aiming for energy renovation investments in multi-dwelling buildings, family homes and public buildings¹².

¹² This is a significant improvement compared to past and current trends: see 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, 2019, JRC114200. Increasing to 3% renovation rate is a necessary step to achieve the objectives of decarbonisation of the building stock, see Zangheri, P., Armani, R., Kakoulaki, G., Bavetta, M., Martirano, G., Pignatelli, F. and Baranzelli, C., Building energy renovation for decarbonisation and Covid-19 recovery, 2020, JRC122143.

Table 2. Overview of Croatia’s objectives, targets and contributions under Reg. 2018/1999

	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 (%)	-1%	11%	-7%	As in the Effort Sharing Regulation
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	28.5%	20%	36.4%	Sufficiently ambitious (32% is the result based on the Renewable Energy Sources formula in the Regulation (EU) 2018/1999)
	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	8.2	10.7	8.23	Low
	Final energy consumption (Mtoe)	6.9	7.0	6.85	Low
	Level of electricity interconnectivity (%)	30%	N.A.	15%	N.A.

Further steps need to be taken to ensure a stable legislative framework for energy, as well as a functioning and competitive electricity market. Croatia is yet to fully implement EU legislation on electricity and gas markets, including certifying the transmission system operator (TSO) for gas. EU internal energy market rules require that TSOs are fully unbundled from generation/production and supply of electricity and gas, thus creating a level playing field for a competitive energy market. National regulatory authorities are required to certify that TSOs comply with these unbundling rules. However, the procedure for certifying the Croatian gas TSO, Plinacro, has been pending since 2013.

The investment gap in waste and the circular economy remains significant. Only 25% of municipal waste was recycled in 2018, far below the EU average of 47%, while landfilling and treatment of waste before landfilling remains problematic. Investment and reforms are needed to modernise and upgrade the existing recycling and waste treatment infrastructure, to support systems of separate collection, composting and sorting plans, and to accelerate the transition to a more circular and resource-efficient economy.

The water supply network is incomplete and faces a high leakage rate (44%), while the sewerage system is underdeveloped. Significant investment needs still exist in Croatia to accelerate compliance with the Water Framework Directive, the Urban Waste Water Directive and the Floods Directive. Water quality is also a matter of concern: diffuse pollution from agriculture is the most significant pressure on water bodies, especially in the continental part of the country lying in the Danube River Basin.

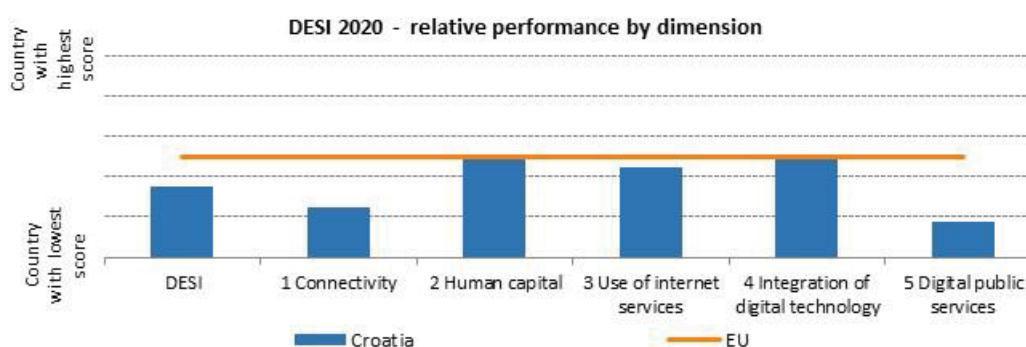
Croatia is among the countries with the richest biodiversity in Europe. Further efforts are needed to maintain and restore the good condition of ecosystems in light of the increased ambition of the EU Biodiversity Strategy for 2030, and the fact that almost 50% of protected habitats and species in Croatia are in an unfavourable conservation status. Investment needs

are estimated at EUR 1.25 billion for 2021-2027 to improve the management of Natura 2000 sites, protection of species, and restoration of habitats, including those important for climate change mitigation and adaptation.

Digital dimension

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

Croatia ranks 20th in the European Commission’s 2020 Digital Economy and Society Index (DESI). Despite continuous progress over the past few years, Croatia still lags in most digital areas compared with the EU average.



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

Croatia ranks 25th in connectivity, despite steady, albeit slow, progress in recent years. On fast next generation access (NGA) broadband coverage, Croatia, at 86%, is closing the gap with the EU average of 87%. Croatia also significantly improved very-high capacity network (VHCN) coverage from 23% in 2018 to 47% in 2020, thanks to both an increase in fibre to the premises (FTTP) coverage and a partial upgrade of its cable networks enabling gigabit speeds. Although the total coverage of FTTP increased to 36% (up from 28% in 2019), access to fibre in rural areas stood at only 7% in 2020. Deployment of fixed and mobile infrastructure is held back in some areas due to high fees in rights-of-way and difficult permit granting procedures, despite recent court rulings in favour of infrastructure deployment.

Croatia lags behind in terms of overall up-take of fixed broadband. Broadband up-take currently stands at 73% of households against the EU average of 77%. Take-up of mobile broadband subscriptions remained stable at 71%, the same as the EU average. On 100 Mbps and above broadband take-up, Croatia continues to lag behind significantly, with only 9%, compared with an EU average of 34%. Croatia ranks 21st on the broadband price index, with prices slightly higher than the EU average prices. The Croatian national plan for broadband development for 2021-2027 went through public consultation with its adoption expected in 2021.

Investment in 5G connectivity is lagging with no progress in terms of 5G readiness. Lack of progress in 5G prevents Croatia from taking full advantage of a digitalised economy and society, both for households and businesses. Croatia has not assigned any of the spectrum harmonised at EU level for 5G mobile networks, partly due to cross-border interference issues with Italy, and still lacks a dedicated comprehensive strategy for 5G deployment. However, the Croatian Regulatory Authority for Network Industries (HAKOM) has allowed the use of the existing 2100 MHz band under technical conditions that can also enable roll-out of 5G in that band. Such use has been notified in 231 locations across Croatia. Currently, 5G networks are available in areas of Zagreb, Rijeka, Split, Osijek, Samobor and Sveta Nedelja.

The share of Croatian school students equipped with high-speed internet access above 100 Mbps is lower than the EU average. This is far from the EU 2025 objectives to have all schools connected to Gigabit connectivity by 2025.

Croatian businesses perform above EU average in terms of cloud uptake (29% in Croatia vs. 26% EU average). Continuously improved access and use of ultra-secure and energy-efficient industrial cloud and edge capacities has the potential to further support business competitiveness and contribute to the European strategy for data. Croatia has committed to investing in shaping the next generation of cloud infrastructure and services for businesses and public administration as well as in creating synergies among national cloud initiatives. The Croatian Shared Services Centre enables Croatia to benefit from government cloud solutions, with the potential for interconnection with other public entities' clouds within the country, and with other EU Member States for the purposes of service enablement or efficiency gains. Croatia's data centres display potential for upgrades in terms of environmental sustainability, energy efficiency and security.

Levels of basic digital skills in Croatia remain low compared to the EU average, while 18% of Croatians have never used the internet. Only 53% of people between 16 and 74 years have at least basic digital skills. In contrast, Croatia has the highest share in Europe of individuals aged 16 to 24 with at least basic digital skills (97%). Nevertheless, the skills that students acquire often do not fully correspond to the labour market needs, and their employment rate is below the EU average.

Furthermore, most businesses report difficulties filling vacancies for ICT specialists. In 2020, ICT specialists accounted for a lower percentage of the workforce in Croatia than the EU average (3.7% compared to 4.3% in the EU). Efforts are being made to increase the number of STEM students, while the number of ICT graduates and ICT specialists is increasing. Skills mismatches in the workforce are significant, with a lack of digital experts and ICT graduates. Conversely, Croatian enterprises invest in ICT trainings for their employees and, in 2020, 23% of enterprises offered specialised ICT training.

Croatian firms are taking increasing advantage of the opportunities offered by online commerce, with 30% of SMEs selling online, 10% selling cross borders to other EU countries, 29% using cloud solutions and 21% using AI solutions. Every fifth (22%) enterprise actively uses social media, while one in four (26%) share information electronically. e-Invoices have become very popular in Croatia with a record increase of enterprises using e-invoices, from 12% in 2018 to 43% in 2020. The uptake of big data is also growing and it reached the EU average of 14% of enterprises. The shift to digital business

models has proven to be an important survival mechanism across the economy during the COVID 19 restrictions. However, the digitalisation of SMEs and the uptake of advanced technologies are too low to enable businesses to expand their digital presence e.g. by participating in e-commerce platforms, reducing operating costs (e.g. through more efficient data processing) and enabling them to adopt and develop innovative digital solutions.

Croatia's level of digital public service provision is below the EU average, according to the 2020 DESI and the 2020 e-Government Benchmark. The availability of e-government for business, while on the rise, is also below the EU average, with 52% of internet users using e-government services (compared to the EU average of 64%). In the indicator measuring the amount of data that is pre-filled in public service online forms, Croatia scores far below the EU average (43 compared to 63). On the availability of digital online services, Croatia scores below the EU average, both on digital services for citizens (score of 60 compared to EU average of 75) and for businesses (score of 73 compared to EU average of 84). In contrast, on open data, Croatia performs well. Online public service supply is lagging behind, as shown by available indicators measuring the user centricity, transparency and existence of key enablers for providing digital public services. The pandemic has demonstrated the importance of providing digital public services to citizens. This calls for boosting user-centricity of digital public services and digital skills to enable a greater take-up of digital public services by the general public.

Croatia ranks 25th in the European Commission's 2020 European Index of Digital Entrepreneurship Systems (EIDES)¹³, a composite measure that reflects the development of the digital entrepreneurial ecosystem. Croatia is part of the laggards group, with a 2020 EIDES score of 30.8 that stands well below the 48.4 average for EU27 and UK. Although the country's EIDES score increased by 5,7 index points during 2018-2020, it was only enough to remain on the 25th position (Autio et al., 2020)¹⁴.

Some steps have been taken to provide digital access to the public administration. During 2020, 24 new e-services were integrated in the e-Citizens system, which is currently used by over 1.25 million citizens. It was redesigned in April 2021 and offers a total of 89 e-services. During 2020-2021 the platform for electronic payment of fees and/or charges was established. The system also enables card payment of administrative fees or charges. It lays the ground for further development of more complex electronic services in both e-Citizens and e-Business systems. Croatia completed the notification of its eID scheme (National Identification and Authentication System) in 2018. The eID scheme, which meets the "high" level of assurance under eIDAS (the EU regulation on electronic identification and trust services for electronic transactions – No 910/2014), allows Croatian personal identity card (eOI) holders to access a wide range of cross-border public services.

Digitalisation of social and health systems is being shaped. Croatia has also transposed the Web Accessibility Directive into law, which give people with disabilities better access to the

¹³ European Index of Digital Entrepreneurship Systems | EU Science Hub (europa.eu)

¹⁴ Autio, E., Szerb, L., Komlósi, E. and Tiszberger, M. (2020), EIDES 2020-The European Index of Digital Entrepreneurship Systems, Nepelski, D. (editor), JRC120727.

websites and mobile apps of public services. The Croatian Ministry of Health co-developed together with the key stakeholders an eHealth Strategy and an Action plan. These set a direction for an eHealth Strategy through a common vision and outline the main action lines, timeline, responsible parties and resources required to implement the recommendations. The eHealth Strategy will be integrated into the future National Health Care Strategy and is expected to improve access to healthcare, including long-term care, in remote areas and islands at risk of exclusion. The launch of a national mobile application to schedule appointments and the consolidation of health information infrastructure with the creation of a one-stop shop, will help improve access to healthcare.

Croatia is committed to promoting and investing in digital technologies through EU-coordinated programmes. It is a member of the EuroHPC Joint Undertaking and signed the Declaration on cooperation on Artificial Intelligence (AI) in 2018. In 2019, Croatia also joined the European Blockchain Partnership and it has signed the Declaration on advancing the digitisation of cultural heritage. In 2020, 62% of Croatian SMEs had at least a basic level of digital intensity, which is slightly above the EU average of 60%. As for the use of ICT for environmental sustainability, 75% of Croatian enterprises record medium/high intensity of green action through ICT, which is significantly higher than the EU average of 66%.

Box 1: Progress towards the Sustainable Development Goals

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



The objectives of the Sustainable Development Goals 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. This section outlines Croatia's performance with respect to the SDGs with particular relevance for the four dimensions underpinning the 2021 Annual Sustainable Growth Strategy and of relevance to the recovery and resilience plans (green transition, fairness, digital transition and productivity, and macroeconomic stability), indicating possible areas where investments and reforms in line with the objectives of the Facility could further accelerate the progress on the SDGs.

Green Transition

Croatia's performance in terms of the SDGs related to the green transition is mixed. For instance, it ranks below the EU average on greenhouse gas emissions (SDG 13) in 2018 with an index of 75.2 compared to the EU average of 79.3. The share of renewable energy in gross final energy consumption (SDG 7) is 28.5% in 2019, well above the EU average of 18.9%. Efforts are still needed to reduce air pollution (SDG 11) exposure by particulate matter (19µg/m³ in 2017, compared to an average of 14.9 in the EU). Investment to further promote the circular economy (SDG 12) would help raise Croatia's circular material use rate, which stands at 5.1% and remains far below the EU average (11.2%).

Fairness

Overall, Croatia performs well and is progressing in terms of the SDGs related to fairness. It is reducing the gap with the EU average across several indicators relating to the goal of no poverty (SDG 1), for example concerning the percentage of population at risk of poverty or social exclusion, at risk of income poverty after social transfers, severely materially deprived, and population aged less than 60 living in households with very low work intensity. However, Croatia is better than the EU average regarding the percentage of population aged 18 or over in work at-risk-of-poverty rate (5.1% vs. 9.0% at EU level in 2019) and living in households with poor housing conditions (10.2% vs. 12.7 % at the EU level in 2019). On quality education (SDG 4) Croatia ranks best in the EU concerning the percentage of early leavers from education and training in population aged 18 to 24 (2.2% vs. 9.9% at EU level in 2020) and is progressing regarding tertiary educational attainment in population aged 25 to 34, but falls behind the EU average on the participation in early childhood education of children aged 3 to age of compulsory education, on achievements in mathematics and science of 15 year olds, on the participation of adults in learning and adults (16 to 74 years old) having at least basic digital skills. On gender equality (SDG 5) challenges remain for some indicators such as inactive population due to caring responsibilities and positions held by women in senior management positions, however, significant advances have been made in the last years concerning the seats held by women in national parliaments (from 19.9% in 2019 to 31.1% in 2020 vs 32.7% at the EU level in 2020). Croatia is above the EU average regarding the gender pay gap, and slightly above the EU average on the employment gap, but the latter is mainly related to lower employment rates of both man and women. On inequalities within the country (SDG 10), although the risk of poverty or social exclusion between urban and rural areas has been reduced in the last years, the risk is still significantly higher in rural areas compared to EU average.

Digital transition and productivity

As regards SDG 9 - Industry, innovation, and infrastructure, Croatia is ranked very low in terms of gross domestic expenditures on R&D, with 0.97% in 2018 compared to the 2.2% EU

average. In 2018, 0.7% of the active working population worked in R&D compared to the EU average of 1.4%. Croatia performs well in terms of number of mobile broadband subscriptions, however, challenges remain regarding the percentage of the population using the internet.

Macroeconomic stability

Croatia faces challenges in addressing SDG 16 – Peace, justice and strong institutions. The proportion of people who perceive their justice system to be very or fairly independent has been decreasing in recent years and is the lowest in the EU. Croatia also performs poorly in the corruption perceptions index.

3. OBJECTIVES, STRUCTURE AND GOVERNANCE OF THE PLAN

3.1. Overall strategy of the plan

The Croatian recovery and resilience plan aims to support Croatia's socio-economic recovery and long-term development after the standstill caused by the COVID-19 pandemic and two series of devastating earthquakes that hit Zagreb and its surroundings in March 2020 and Banovina region in December 2020. It also aims to address the long-standing challenges facing the economy identified in the National Development Strategy until 2030. These challenges are reflected in the structure of the plan, which is organised around five components - (i) Economy, (ii) Public administration, judiciary and state assets, (iii) Education, science and research, (iv) Labour market and social protection and (v) Health - and one initiative Renovation of buildings. In total, the plan contains 76 reforms and 146 investments.

The component Economy fosters inclusive and sustainable development by boosting private investment and the transition towards the green and digital economy. It includes reforms and large-scale investments aiming to improve the competitiveness of the economy and to foster innovation, strengthen agriculture, transport, energy and environmental protection, as well as to develop sustainable tourism. The green transition entails decarbonising the energy sector, with further investments in renewables, developing new technologies and increasing the energy efficiency in all sectors, and in particular in energy, transport and ICT industry. In order to develop a competitive, energy-sustainable and efficient transport system, investments will continue in the modernisation of transport infrastructure and in safety, environmental sustainability, efficiency and competitiveness of all transport modes.

The component Public administration, judiciary and state assets includes measures to increase the institutional efficiency and resilience. It aims to improve the efficiency of public administration in order to better design, implement and evaluate policies and projects, including those financed by EU funds. It also aims to increase the efficiency of the judiciary by improving the handling of court proceedings and strengthening electronic communication in courts, as well as by improving the system of preventing and combating corruption and creating the preconditions for optimising the system of local and regional self-government units through actual or functional mergers of business processes and digitisation. Measures are included to strengthen the fiscal and anti-money laundering framework, increase the efficiency of the public procurement and improve the management of state assets.

The component Education, science and research aims to strengthen the education and research system, as well as lifelong learning. The reforms and measures under this component are expected to improve access to and improve quality of education, while fostering scientific excellence and strengthening Croatia's research and innovation capacities, thereby contributing to competitiveness and the sustainable development of the economy, especially in the aftermath of the pandemic. Reforms and investments in the education system aim notably to increase access to early childhood education and care, introduce a full-day teaching model in primary schools, increase the percentage of pupils in general secondary education, which could lead to improved tertiary education attainment, modernise higher education, and increase the labour market relevance of curricula for vocational secondary

education and higher education, and improve adult learning. Reforms and investments in the Croatian research and innovation system notably seek to consolidate the public science base, revamp the institutional funding system of universities and public research organisations so as to incentivise high quality research, strengthen the attractiveness of research careers and improve the efficiency of R&I support programmes.

The component Labour market and social protection includes measures aimed at boosting employment and ensuring adequate social protection, including by improving pensions adequacy. It aims to increase the employment rate and strengthen social cohesion. Measures aim to help ensuring the conditions for creating new jobs, especially for young people and the self-employed. Reforms and investments within the component are expected to contribute to strengthening employment measures and the labour market institutions, while improving access to re-skilling and up-skilling. In order to protect the most vulnerable groups in the society, the measures are expected to contribute to streamlining, targeting and increasing social benefits as well as broadening their coverage hence improving their impact on reducing the risk of poverty and social exclusion.

The component Health focuses on the accessibility and sustainability of the health system to help achieve longer life expectancy, better quality of life and reduction of health inequalities. It aims to contribute to the delivery of quality health services, while strengthening governance in the health system. Reforms and investments under this component aim to contribute to the fight against the pandemic and to ensuring a public health system which is accessible, well-functioning, efficient and financially sustainable in the long-term, and that will provide quality health services at all levels of healthcare throughout Croatia. Measures are planned to increase the prevention and early detection of diseases and to foster the development of telemedicine and medical robotics.

The initiative Renovation of buildings aims to foster decarbonisation of the sector and support the post-earthquake renovation of buildings. It aims to support the comprehensive renovation of multi-dwelling and public buildings, including health and educational facilities, as well as buildings with the status of a cultural good. The energy renovation programme in the housing sector is expected to help reduce energy poverty and increase energy efficiency. The initiative aims to speed up the renovation rate by addressing some of the challenges such as the shortage of skilled workers and experts in energy and post-earthquake renovation as well as the heavy administrative burden in the renovation process. Measures under this initiative also aim to modernize the seismic data monitoring system, to help develop green infrastructure and circular management of building and spaces, and the model for systematic monitoring of energy consumption for private buildings, on which a new energy-efficiency financing model could be based.

Table 3. Components and associated costs

Component	Costs (EUR million)
Component 1: Economy	3 411.5
C.1.1 Resilient, green and digital economy	738.7
C1.2 Energy transition for a sustainable economy	658.3
C1.3 Improving water and waste management	862.7
C1.4 Development of a competitive, energy sustainable and efficient transport system	728.7
C1.5 Improving the use of natural resources and strengthening the food supply chain	131.1
C1.6 Developing sustainable, innovative and resilient tourism	292.0
Component 2: Public administration, judiciary and state assets	581.1
C2.1 Strengthening capacity to design and implement public policies and projects	22.8
C2.2 Further improving the efficiency of public administration	68.2
C2.3 Digital transition of society and public administration	380.8
C2.4 Improving the management of state assets	1.9
C2.5 Modern justice fit for future challenges	100.6
C2.6 Preventing and combating corruption	6.0
C2.9 Strengthening the fiscal framework	0.8
Component 3: Education, science and research	995.4
C3.1 Reform of the education system	676.9
C3.2 Boosting research and innovation capacity	318.5
Component 4: Labour market and social protection	276.5
C4.1 Improving employment measures and the legal framework for the modern labour market and the economy of the future	190.5
C4.2 Improving the pension system through increased pension adequacy	3.0
C4.3 Improving welfare systems	83.0
Component 5: Health	340.3
C5.1 Strengthening the resilience of the health system	340.3
Initiative: Renovation of buildings	789.0
TOTAL	6 393.8

3.2. Implementation aspects of the plan

Consistency with other programmes

The Croatian recovery and resilience plan provides detailed justification for its alignment to the goals, priorities and policy and reform recommendations of other national broad plans.

The recovery and resilience plan is consistent with the key strategic documents, such as:

- the Croatian Government's 2020 Programme,
- the National Reform Programme (2019-2024),
- the Country-specific recommendations (CSR) under the European Semester (2019 and 2020),
- the Action Plan for Croatia's participation in the Exchange Rate Mechanism (ERM II) and
- the National Development Strategy of the Republic of Croatia until 2030, which is the basic strategic development document for this decade.

The recovery and resilience plan is consistent with the latest National Energy and Climate Plan. Notably, both the "economy" component and the building renovation initiative include reforms and investments that should help reach the climate and energy targets for 2030 and also contribute to transition towards climate neutrality. The energy transition part of the "economy" component focuses on increasing the share of renewable energy sources in energy consumption, decarbonisation of the energy sector, and investments in advanced biofuels production and carbon capture and storage. The building renovation initiative seeks to improve the energy efficiency of the domestic building stock (residential and non-residential, public and private). Finally, the component focusing on the development of a competitive and sustainable transport system is also relevant, by focusing on supporting electro-mobility and zero-emission fleets in the road, rail and maritime sectors.

The recovery and resilience plan is consistent with the National Transport Strategic Plan (2017-2030), as it aims to support the development of a modern, sustainable, accessible and climate change resilient transport infrastructures, in particular investments in modernising and upgrading the railway infrastructure. It acknowledges the enhancement of resilience against threats and risks of any kind as a crucial element of economic and societal development and progress.

The recovery and resilience plan aims to be aligned with the Just Transition Mechanism and other funds and programmes under the Common Provision Regulation as well as with the Innovation and Modernisation Funds under the EU Emissions Trading System. While the Partnership Agreement, Programmes and Territorial Just Transition Plans under the Common Provisions Regulation for the period 2021-2027 are still at a preparatory stage, the plan draws from and builds on the outcomes and the experience from implementing the Partnership Agreement for the previous period (2014 – 2020). Also, the Economy component of the plan, and specifically sub-component 1.2 on the energy transition, includes investments, which should help reduce greenhouse gas emissions and alleviate the negative consequences of the green transition in the Sisak –Moslavina region, one of the two regions eligible for the Just Transition Fund in Croatia. Throughout the implementation, it will be

important to ensure appropriate coordination between the recovery and resilience plan and the programmes co-financed by the Cohesion and Regional funds as well as the Innovation and Modernisation Funds under the EU Emissions Trading System, exploit synergies and avoid overlaps to maximize impact of the investments and safeguard efficiency.

National arrangements for the implementation of the plan

A dedicated central coordinating body under the Croatian Ministry of Finance will coordinate and carry out the implementation of the recovery and resilience plan. One specific reform included in the recovery and resilience plan defines the competent authorities and their respective responsibilities for carrying out the tasks for the implementation of the plan. It establishes a central coordinating body under the Ministry of Finance for the implementation and monitoring of the national recovery and resilience plan, and mandates the Implementation Committee, which will ensure consistency and coherence in the use of the EU funds.

The Croatian plan foresees the strengthening of the management and control system of the Agency for the Audit of European Union Programmes Implementation System (ARPA), which will also be responsible for the recovery and resilience plan. This aims at meeting the increased obligations under the recovery and resilience plan and to enable its efficient and effective implementation. The financial support of specific activities, such as the close monitoring of projects' progress, audits and on-the-spot inspections, certifications, provision of information and publicity actions, is considered essential for the achievement of the recovery and resilience plan's purposes. The IT system used for European structural and investment funds will also be upgraded to allow for the collection, storage and monitoring of data on the milestones and targets, including at the level of final recipients.

Gender equality and equal opportunities for all

The recovery and resilience plan includes measures that could help increase female labour market participation. The reform of labour legislation is expected to help improve female labour market participation by facilitating work-life balance, and to contribute indirectly to the reduction of the gender pay gap and the currently high gender pension gap. The plan includes a reform of education system which aims to ensure equal opportunities for all children, mainly by increasing the participation in early childhood education and care and the mandatory instruction hours in primary school. Croatia will develop social mentoring services that support hard-to-reach groups of beneficiaries such as persons with disabilities, victims of violence, homeless people, migrants, Roma and young people leaving the social welfare system to assist them with employment. The plan foresees several investments to address specific needs of persons with disabilities, such as measures to ensure physical accessibility to buildings and housing environment, as well as measures to provide adequate mobility services, promote hybrid access to a workplace and ensure access to digital public services.

Consultation process

According to the recovery and resilience plan, Croatia carried out a consultation process before submitting its plan. Croatia carried out a stakeholder public consultation after the submission of a first draft plan to the Commission in December 2020. Between January and May 2021, the authorities held more than 15 thematic meetings with different

stakeholders where they presented the recovery and resilience plan opportunities for Croatia in specific areas, its structure, criteria, process and complementarities with other EU funds. During the consultation process, private sector representatives pointed to the general financing needs during the Covid 19 crisis and urged the authorities to direct special support to the SMEs and start-ups. The summary of the plan was published and presented to the media ahead of its adoption by government on 1 April 2021. After adoption by government, the summary of the plan was posted on the government's website and discussed in parliament on 14 April 2021. Croatia's recovery and resilience plan does not outline the authorities' plans on how to include the stakeholders in the implementation of the plan. To ensure ownership by the relevant actors, it is crucial to involve all local authorities and stakeholders concerned, including social partners, throughout the implementation of the investments and reforms included in the plan.

Technical Support

Croatia has included in its recovery and resilience plan the estimated cost for additional technical support, under the Technical Support Instrument, for the implementation of innovative public procurement, in accordance with Article 7(2) of the RRF Regulation. The additional technical support shall contribute to enhanced use of public procurement of innovative goods and services to stimulate their development and commercialisation. It will do so by providing recommendations on strengthening the innovation-specific public procurement framework in Croatia, supporting the establishment of a monitoring and evaluation system for innovation procurement, drafting a guide for procuring entities to conduct innovation-related procurement procedures, establishing a continuous training system to strengthen the capacity of Croatian procurers in innovation-related procurement procedures and by raising the awareness of interested private sector stakeholders.

In addition, the Technical Support Instrument provides expertise in building capacities to implement the plan in a number of areas it covers, such as insolvency reform, interoperability and coordination of public policies' digitalisation, management of State property, macroeconomic modelling, anti-money laundering framework, and telemedicine, digital transformation of higher education and implementation of regulatory impact assessments.

A number of ongoing technical support projects funded by the Structural Reform Support Programme contribute to the implementation of the plan in the following areas: support for business environment reform, support for developing just transition plans, professional services reforms, costing and assessing the performance of public polices, management of state-owned enterprises, e-judiciary, budget planning, curricular reform, improving social welfare system, and health-system performance assessment. Sectoral support under the Horizon Policy Support Facility for the design and implementation of some of the research and innovation policy reforms foreseen as part of component 3.2 is also envisaged.

Cross-border and multi-country projects

The plan includes cross-border and multi-country projects in three areas. First, there are measures related to the interoperability of the information systems under the Digital transition component, which includes the establishment, upgrading, interconnection of the core registers and the establishment of a Central Interoperability System in line with the European Interoperability Framework (EIF). Second, under the Education component, the digital transformation of higher education is expected to stimulate and accelerate the stronger

involvement of higher education institutions in cross-border and multinational projects, in particular projects for which digital maturity is a necessary condition for participation. Third, under the Water and waste management component, the Public Water Supply Development Programme and the Programme for the Development of Public Sewerage have a positive impact on the environment by reducing pollution the environment and water resources, contributing to the conservation of water bodies, and in this sense their impact is cross-border and global.

Communication strategy

The plan broadly outlines Croatia's 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 Croatian and European recovery and to the twin transition. The described communication strategy will publicise the objectives pursued by the Government through the implementation of the Croatian RRP as well as the opportunities for funding, programmes and projects.

The plan foresees three strategic communication goals. These include familiarising the general public with the content of the RRP, strengthening public trust in the implementation process through transparent approach and raising awareness of the usefulness of EU membership linking it to the opportunities provided by RRP. Croatia plans to target three main groups with tailored messages: the general public, beneficiaries and multipliers with focus on media. The communication channels used will range from press briefings, conferences, regular thematic announcements, thematic broadcasts, public events and promotional videos. Dedicated web page will be set up and an information campaign on government social media organised.

A series of coordinated communication activities with the European Commission is planned, including joint press releases, conferences, events with European Commission representatives and cooperation in an informal campaign on the social media. Projects with particular relevance for Croatia and size will be highlighted. The activities will be either budget neutral or be included in a separate cost statements of individual projects. The government plans to monitor the impact of the communication measures in terms of transparency, awareness of RRP opportunities and the role of the EU.

Security self-assessment

Croatia provided a preliminary security self-assessment for investments in digital capacities and connectivity. It describes how the national regulator (HAKOM) prepared a draft ordinance on the manner and timing of implementing measures to safeguard the security and integrity of networks and services, which incorporates the technical measures referred to in the '5G security toolbox'. These rules are scheduled to enter into force by the end of summer 2021. Regarding public governmental cloud, further information is expected during the implementation phase. Strategic measures mentioned in the security self-assessment would need to be closely monitored during the implementation of the plan.

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 TFEU³. 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 Croatia in the recovery and resilience plan cannot be deemed a State aid notification. In as far as Croatia considers that a specific measure contained in the recovery and resilience plan entails *de minimis* aid or aid exempted from the notification requirement, it is the responsibility of Croatia to ensure full compliance with the applicable rules. Measures in the plan should also be compatible with the EU's international obligations, in particular under World Trade Organization rules.

4. SUMMARY OF THE ASSESSMENT OF THE PLAN

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

The Croatian recovery and resilience plan amounts to EUR 6.4 billion in non-repayable support and represents a comprehensive and fairly balanced package consisting of 222 individual measures (76 reforms and 146 investments).

Croatia's recovery and resilience plan contributes to the general objective of the Facility to promote the Union's economic, social and territorial cohesion by referring in a comprehensive manner to the six pillars structuring the scope of application of the Recovery and Resilience Facility (Article 3): (i) Green transition, (ii) Digital transformation, (iii) Smart, sustainable and inclusive growth, (iv) Social and territorial cohesion, (v) Health and economic, social and institutional resilience, and (vi) Policies for the next generation. Table 4.1 below summarises the coverage of each of the components in the Croatian plan to one or more of the six pillars.

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

Table 4.1. Coverage of the six pillars of the Facility by the Croatian recovery and resilience plan components

	Green transition	Digital transition	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, and economic, social and institutional resilience	Policies for the next generation
1.1 Resilient, green and digital economy	●	○	●	○		
1.2. Energy transition for a sustainable economy	●	○	○	○	○	
1.3 Improving water management and waste management	●			●	○	
1.4. Development of a competitive, energy sustainable and efficient transport system	●	●	○	○		
1.5. Improving the use of natural resources and strengthening the food supply chain	○	●	○		○	
1.6. Developing sustainable, innovative and resilient tourism	○	○	●	○		
2.1 Strengthening the capacity to design and implement public policies and projects	●	○	●	○	●	
2.2. Further improving the efficiency of the public administration		●	○	○	●	
2.3. Digital transformation of society and public administration		●	○			
2.4. Improving the management of state property		○		○	●	
2.5. Modern justice fit for future challenges	○	○			●	
2.6. Preventing and combating corruption		○		○	●	
2.7. Strengthening the fiscal framework					●	
2.8 Strengthening the anti-money laundering framework					●	
2.9. Strengthening the public procurement framework			●		○	
3.1 Reform of the education system			○	○		●
3.2. Boosting research and innovation capacity	○	○	●	○		●
4.1 Improving employment measures and the legal framework for the modern labour market and the economy of the future	○	○		●	○	○
4.2 Improving the pension system through increased pension adequacy				●	○	
4.3. Improving welfare systems		○		●	●	
5.1 Strengthening the resilience of the health system		●		○	●	
6.1 Renovation of buildings Initiative: Renovation of buildings	●	○	○		○	
Total number of components that significantly contribute to pillar	6	5	5	4	9	2

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

Green transition

Croatia's recovery and resilience plan supports the green transition through several components. Significant contributions to the green transition are provided by six components that focus on climate-related and environmental measures, and on preserving biodiversity, while other five components include individual measures with noticeable contributions to the green transition. The largest contribution stands at EUR 789 million dedicated to building renovation (C6.1), representing an important effort in the reconstruction after the 2020 earthquakes. An additional EUR 658 million are committed to investments into energy and energy efficiency (C1.2), while EUR 649 million is earmarked to sustainable and innovative mobility (C1.4). EUR 501 million is dedicated to water management, circular economy, biodiversity and ecosystems (C1.3), while several measures provide support to green transition in a form of financial instruments amounting to EUR 604 million under the economy (C1.1) and tourism (C1.6) components. Finally, EUR 597 million are dedicated to improving green jobs transition, R&D and innovation, energy efficiency in justice infrastructure and agri-food system (C1.5, C2.5, C2.6, C3, C4).

Digital transformation

Digital measures are included in the majority of the components of the Croatian plan reflecting the broad and crosscutting nature of the envisaged digitalisation efforts. Five components can be identified as contributing significantly to the digital transition, while eleven have a partial impact. The most significant allocation to the digital transition is in the component on sustainable and innovative mobility (C1.4) that earmarks EUR 692 million. The various measures throughout the plan, amounting to EUR 575 million in total, represent a significant effort to the digitalisation of public administration and raising digital administrative capacity, notably in the justice system, both for the purpose of internal efficiency and improving public services for citizens. In particular, one component (C2.3) focuses explicitly on the digital transformation of Croatia's economy and society, with various measures to support the digitalisation of public administration and the provision of digital public services. Investments in digital connectivity are also included for digital infrastructures in remote rural areas, which are lagging behind in terms of digital inclusion. Investments under the energy component (C1.2), amounting to EUR 433 million, and projects worth EUR 402 million in the education (C3.1), R&D and innovation (C3.2) areas will also contribute the digital transition. The healthcare component (C5.1) dedicates a majority of measures to health services digital shift amounting to EUR 44.1 million. Finally, many components dedicate investments to digitalisation that improve competitiveness, productivity, job skills and employability through contributions totalling EUR 791 million (C1.1, C1.3, C1.5, C1.6 and C4).

Smart, sustainable and inclusive growth

Numerous components include measures to improve the business environment, supporting SMEs and large enterprises, along with incentivising innovation and R&D. Ensuing negative effects of the COVID-19 pandemic, several measures in the economy (C1.1) and tourism component (C1.6) are tailored to enhance the productivity and competitiveness of SMEs and the tourism sector through a combination of measures, grants and financial instruments aimed at supporting investments and employment, with a particular focus on the green and digital transitions. At the same time, measures in the components on

strengthening policy making (C2.1) and public procurement (C2.9) will support the better use and higher absorption of EU funds, thereby contributing to the economic cohesion within Croatia. Through the revamping of the framework for funding research, and attracting and retaining talents, the component on research and innovation (C3.2) will contribute to increasing innovation, productivity and competitiveness of Croatian businesses.

The Economy component 1.1 includes investments and several regulatory and administrative changes, which are expected to boost the productivity and competitiveness of Croatian businesses. The component includes around EUR 740 million worth of measures, representing 11.5% of Croatia's total allocation. It envisages more than 100 measures to reduce the administrative and parafiscal burden of businesses by at least EUR 400 million and to continue the liberalisation of regulated professions to further improve the business environment in Croatia. The digitalisation of public services to businesses will also continue. Substantial resources within the economy component (EUR 560 million) are devoted to increasing businesses' access to capital to boost their competitiveness, increase their productivity, adapt their business processes to the green and digital transition and, specifically, to increase their investments in green technology. This component pays specific attention to supporting the cultural and creative sectors, which were hit particularly hard by the pandemic, in digitalising their services and digitising archives, and thereby adopt a more sustainable business model. Finally, this component envisages amending the legal framework and improving the efficiency of innovation support schemes, while providing tailored support to innovative start-ups and SMEs with a view to substantially increase the innovation capacity of Croatian businesses and stimulate private R&D investment.

The plan seeks to put the tourism sector of Croatia on a more sustainable footing by focusing attention on the less developed regions and tourism products. Component 1.6 (EUR 290 million) is dedicated to help the recovery and increase the resilience of the tourism sector, which is one of the main drivers of the growth of the Croatian economy but has been particularly affected by the restrictions adopted to fight the pandemic. The plan focuses on developing tourism and increasing the uptake of digital technology of the sector, notably by updating infrastructure to increase its energy efficiency and the use of renewable energy sources, while promoting the adoption of new business plans in line with the principles of the circular economy. A further objective of this component is to increase the attractiveness of less developed inland tourist destinations, raising their quality and enabling extended seasons, fostering sustainable forms of tourism and developing tourism infrastructure.

Social and territorial cohesion

The plan aims at enhancing social cohesion mainly through labour market policy measures and appropriate skills development, also targeting vulnerable groups, and through re-designing social policies to improve their poverty-reduction capacity. To achieve the latter, both the reforms and investments of component 4.1 are tailored to address the current and future demand of the labour market, mainly focusing on skills necessary for the green and digital transition of the economy. The overall envelope of the labour market component (4.1) amounts to EUR 179 million, with the majority of the allocation geared towards creating the adult education voucher system focused on reskilling, upskilling or uptake of new skills related to green and digital transition. Furthermore, in order to tackle low

labour activity as one of the key challenges of the Croatian labour market, the active labour market policies (AMLPP) will focus on raising the competitiveness and employability of vulnerable groups, long-term unemployed, inactive and young NEETs. Moreover, poverty-reducing measures in the pension (C4.2) and social policies (C4.3) components have the potential to substantially enhance social cohesion.

The plan is expected to support the territorial cohesion of Croatia through various measures. These include expanding and upgrading network infrastructures to connect regions better, introducing new electronic services and improving the regulatory framework. In particular, the component on water and waste management (C1.3) envisages investments amounting to EUR 700 million aimed at renovating and rehabilitating 775 km of public sewerage networks and 226 km of water supply networks and improve flood protection in risk areas. In addition, EUR 386 million in the transport component (C1.4) will be dedicated to improve both the management and the physical infrastructure of road, rail and maritime transport, thereby improving the accessibility and connectedness of less densely populated areas. The plan is expected to further reduce territorial fragmentation by giving priority to less developed regions when providing financial support to businesses under the economy component (C1.1) and the tourism component (C1.6) and by ensuring a high -quality and efficient system of local and regional self-government through incentivising both the functional and actual integration of local government units.

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

In the exceptional circumstances caused by COVID-19 pandemic, the Croatian recovery and resilience plan recognises health (C5.1) as one of the critical sectors for achieving crisis preparedness and resilience. An allocation of EUR 340 million is entirely dedicated to improving the healthcare system, in terms of necessary structural reform changes as well as infrastructure and medical equipment requirements. The reform effort is focused on supporting the sector's long-term financial sustainability, by assuring joint procurement purchasing for national health facilities. Through the restructuring and reorganisation of essential health services, the long-term sustainability of services and the efficient use of existing human resources can be addressed. The plan will support investments to develop harmonised standards, foster the uptake of modern medical treatment practices, and provide specialised medical staff training. Measures have also been included to promote full territorial coverage of primary healthcare and medicine availability, thus improving the resilience and preparedness of the system while at the same time increasing the quality of life in rural, remote and islands areas. In addition, digitalisation is used to enable remote teleservices and better use of limited resources and capacity.

Long-term care (LTC) investments amount to EUR 82 million and are aimed at supporting the development of family and community-based services, while securing access to institutional care for individuals whose well-being depends on it. Reforms included in the component on social policies (4.3) aim to support the transition to deinstitutionalised long-term care, especially for older adults. Furthermore, creating harmonised quality standards in specific services and further developing the social mentoring service will enable a shift towards more community-based services.

The components on strengthening policy making (C2.1) and on public administration (C2.2) are specifically dedicated to strengthening the public administration, and other parts of the plan also contribute significantly to institutional resilience. Component 2.1 includes measures to strengthen mechanisms for the coordination and management of public policies, and component 2.2 will revamp procedures in the civil service to recruit, retain and remunerate civil servants with a view to improving the quality of public services at all levels of government. The justice component (C2.5) and the component on anti-corruption (C2.6) include reforms and investments, for a combined total of EUR 100 million, which is expected to significantly improve the efficiency of the justice and anti-corruption systems, shorten the length of court proceedings and reduce the backlog of court cases. Legislative changes in the fiscal component (C2.7), reforms foreseen as regards the anti-money laundering frameworks (C2.8), as well as the development of better forecasting tools will contribute to risk mitigation and crisis preparedness. Measures in the component on public procurement (C2.9) will strengthen the public procurement framework, leading to better absorption of EU funds and improve the efficiency of public expenditure. Finally, implementing the OECD recommendations on the governance of state-owned enterprises and further reducing the portfolio of state assets will lead to better management of state assets and increased economic resilience of the public sector.

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

The plan includes important measures targeted to children and youth, to support education and the future of the next generation. These are most significantly addressed in the two components education (C3.1) and on research and innovation (C3.2). The plan includes measures to support the reform of the education system, based on infrastructure investments to increase participation in early childhood education and care and enable an increase in mandatory education time at primary and lower secondary education levels. These measures, together with the reform of curricula, are expected to visibly improve education outcomes and the modernisation of higher education should improve its labour market relevance. Furthermore, measures aiming at strengthening the attractiveness of research careers, such as fellowships for students in Science, technology, engineering, and mathematics (STEM) and Information and communications technology (ICT) areas, are expected to foster skills development and enhance employability.

Taking into consideration all reforms and investments envisaged by Croatia, 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 Croatia into account. This would warrant a rating of A under the assessment criterion 2.1 in Annex V to the RRF Regulation.

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

According to the Regulation, the recovery and resilience plan is expected to contribute to effectively addressing a significant subset of challenges addressed to Croatia identified in the relevant country-specific recommendations, including fiscal aspects thereof and recommendations made pursuant to Article 6 of Regulation (EU) No 1176/2011 where

appropriate, or challenges identified in other relevant documents officially adopted by the Commission in the context of the European Semester.

Assessment by challenges

Table 4.2 presents the mapping of the selected challenges, the associated country-specific recommendations (CSRs) and the six components of the Croatian recovery and resilience plan.

Public finances

The Croatian recovery and resilience plan contains two reforms under components 2.7 and 2.2 that reinforce the budgetary framework and the monitoring of contingent liabilities at central and local level (CSR 2019.1.1). Component 2.7 aims at further strengthening the fiscal framework and fiscal discipline through amending the Budget Law to improve budgetary processes, improve financial reporting and develop a macroeconomic projection model. Reinforcing the fiscal framework is one of the basic elements of improving the sustainability of public finances, which in turn contributes to macroeconomic stability and creates the preconditions for increasing potential growth rates, as well as economic recovery and resilience. This component also partially addresses CSR 2020.1.1 on pursuing fiscal policies aimed at achieving prudent medium-term fiscal positions. Component 2.2 contributes to addressing the CSR with measures aimed at achieving a more functional and sustainable local government through further optimisation of local government units.

Labour market, education and social policies

Reforms and investments under component 4.1 address recommendations related to labour market measures and institutions (CSR 2019.2.3 and 2020.2.1). The plan envisages the adoption of active labour market policies (ALMP) to boost employment and self-employment linked to the green and digital transitions. The planned interventions aim at facilitating the inclusion of vulnerable groups in the labour market and monitoring of labour market outcomes through improvements of the Public Employment Service processes. Investments under this component include the funding of vouchers for accredited adult education, training and upskilling programmes to acquire the skills needed in the labour market. These measures have the potential of increasing the competitiveness and employability of the labour force in line with labour market needs and with a particular focus on the activation of the long-term unemployed and the inactive population. The proposed reform of the labour law has the objective of establishing a clear and modern legislative framework aimed at improving working conditions and work-life balance, at better regulating novel forms of work and encouraging the transitions from fixed to open-ended contracts and from undeclared to declared work.

The Croatian plan addresses, through component 3.1, the recommendations to deliver on the education reform and improve access to education and training at all levels, their quality and labour market relevance (CSR 2019.2.1) and to promote the acquisition of skills (CSR 2020.2.4). It supports reform of the education system, which aims to improve access to early childhood education and care and to increase the quality of teaching and learning outcomes. The plan includes measures to increase the number of mandatory teaching hours in primary schools, introduce a new full-day teaching model, increase students' enrolment in general secondary schools and improve the labour market relevance of

curricula. It also includes infrastructure investments in early childhood education and care, schools and higher education digital infrastructure. Measures from component 3.1 will contribute to addressing the 2020 Council recommendation to promote the acquisition of skills (CSR 2020.2.4). For basic skills, this will be achieved through increase of the number of mandatory teaching hours in primary schools and related reforms. Investments under this component also aim to support the digital transformation of higher education and facilitate e-learning. This includes investments in digital infrastructures for teaching and the development of digital teaching tools. Skill acquisition is also partially addressed through component 4.1 by implementing a voucher system for re- and up-skill aimed at vulnerable groups, through component 1.6 with measures to educate students and unemployed persons to strengthen knowledge and skills in tourism, and through component 1.1 by funding a voucher system that will cover training for improving digital skills.

Challenges concerning the Croatian social welfare system, both as regards social benefits and social services, are addressed by component 4.3. In particular, the proposed reforms and investments relate to the CSR to consolidate social benefits and improve their capacity to reduce poverty (2019.2.2), the CSR on the adequacy of unemployment benefits and minimum income schemes improvement (2020.2.2), as well as on increasing access to digital infrastructure and services (2020.2.3). Measures under component 4.3 envisage the increase of the basic amount and the coverage of the Guaranteed Minimum Benefit (the main poverty reducing benefit at the national level), as well as the merger of benefits with the same functions – with the aim to improve coverage, adequacy and targeting of social benefits. Investments in the digitalisation of the social benefits system will provide a simplified access and an overview of the type and amount of social benefits that beneficiaries are entitled to receive at the national level as well as at the level of local and regional government units. The plan also envisages the development of new social services (social mentorship and family assistants) with the aim to prevent institutionalisation and social exclusion, as well as measures to support the transition to home and community-based long-term care for elderly people. The combined impact of these measures should help reduce poverty, prevent social exclusion and develop social services tailored for vulnerable groups, thereby building of a more resilient society.

Health care

Component 5.1 of the plan addresses the recommending to enhance the resilience of the health system while promoting a more balanced geographical distribution of health workers and facilities, a closer cooperation between all levels of administration and investments in e-health (CSR 2020.1.2). Component 5.1 allocates more than 340 million euro in investments to address the challenges of resilience and sustainability of the health care system, which translate into below EU average life expectancy, weak preventive, chronic and long-term care. The main measures include: improving the digitalised system of joint procurement, purchasing new medical equipment, increasing the number of physicians, nurses and other health professionals, the introduction of a new care model for patients, the functional integration of hospitals and the strengthening of day hospitals at secondary and tertiary level. The overarching objective of the reforms and investments in this component is to improve the efficiency, quality, accessibility, and financial sustainability of the health system.

The recovery and resilience plan addresses recommendations related to reducing emissions and ensuring a more efficient transport system, further decarbonising the energy sector and increasing energy efficiency across different sectors, and improving water and waste management. The measures and investments included in the plan contribute in tackling the recommendation (CSR 2020.3.6) to focus investment on the green and digital transition, in particular on environmental infrastructure. Several components of the Croatian plan (1.1, 1.2, 1.3, 1.4, 1.5 and 6.1) contribute to achieving this objective by promoting investments in clean and efficient energy, carbon capture and storage, an efficient and sustainable transport system, the improvement of water and waste management and the decarbonisation of buildings.

Component 1.2 regarding energy transition addresses the Council recommendations to focus investment on energy efficiency, renewables and environmental infrastructure and the green transition to clean and efficient production and use of energy (CSR 2019.3.3 and CSR 2020.3.8). This component alone exceeds 10% of the plan allocation. The objective of this component is to facilitate the decarbonisation of the energy and transport sectors, including the development of innovative technologies. This would contribute to achieving the contribution of 36.6% to the EU's 2030 target of renewable energy sources that was set by Croatian National Energy and Climate Plan (NECP) and meeting Croatia's contribution to the EU energy efficiency target of 32.5% by 2030¹⁵. It would also contribute to reaching the 14% share of renewables in transport by 2030. The reforms in component 1.2 consist of legislative initiatives to (i) remove barriers and administrative procedures restraining the uptake of renewable energy sources, including the introduction of a premium system for the support of investment in renewables; (ii) finalize the certification of the gas transmission system operator; and (iii) promote use of alternative fuels in transport, including hydrogen and advanced biofuels. Investments consist of: promoting production of renewable hydrogen as an alternative fuel, carbon capture and storage, construction of a biorefinery that will produce advanced biofuels, digitalising the energy system, fostering energy efficiency and investments in renewable energy, with the aim to decarbonise the energy sector and transport sector.

The plan also addresses the recommendations to focus investments in sustainable urban and rail transport (CSR 2019.3.3, CSR 2020.3.7). Component 1.4, on the development of a competitive, energy-sustainable and efficient transport system can contribute significantly to the implementation of this recommendation. The component allocates 11.4% of investments of the overall plan to develop a uniform transport network with developed railway and public transport infrastructure and intermodality between different modes of transport, increase the share of vehicles and vessels powered by alternative fuels, reduce greenhouse gas emissions and environmental footprint of the transport sector, as well as foster sustainable mobility of people and goods. This component includes reforms and investments in all transport modes

¹⁵ 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, JRC122862.

(rail, road, maritime, air, public urban and inland waterway transport) and covers all regions of Croatia.

Component 2.3 of the plan contributes to addressing the recommendation to increase access to digital infrastructure and services and to focus investment on high-speed broadband (CSR 2020.2.3 and CSR 2020.3.9). This component focuses on the digital transformation of Croatia's society and the public administration. It includes reforms and investments to digitalise the public administration and increase the provision and quality of digital public services. It also includes reforms and investments in connectivity with measures to provide access to very high-capacity networks in rural areas.

Component 3.2 regarding boosting R&I capacity contributes to addressing the recommendation to focus investment-related economic policy on research and innovation (CSR 2019.3.1). Through a series of reforms and investments this component has the following objectives: (i) improving the system of institutional funding for universities and scientific institutes to incentivise scientific excellence and to promote research collaborations and knowledge transfer through the introduction of performance-based funding; (ii) increased investment in research infrastructure and organisational capacities of universities and scientific institutes, which shall allow for a higher quality of scientific research as well as improving the attractiveness of research careers in Croatia; (iii) introducing a new enabling framework for the advancement and career development of researchers, in line with the specificities of scientific fields, attracting and retaining young Croatian scientists and high-quality foreign scientists; (iv) introducing a more efficient institutional and programming framework for research and development funding programmes.

Public administration, judiciary and the business environment

Component 2.2 of the plan contributes to address the challenges of the Croatian public administration, as identified in consecutive CSRs (2019.1.2, 2019.2.4, and 2020.4.1). Component 2.2 of the plan envisages the introduction of new wage and work models in the civil service and public service, upgrading the human resource management system, and fostering vertical and horizontal mobility. It also aims at improving the recruitment process in the civil service by strengthening the admission system and further improving the competences of civil servants. The plan also partly addresses the high level of fragmentation of the Croatian public administration at the local government level, which results in many small local governments often lacking adequate financial and administrative resources to provide the services under their remit, which creates wide disparities in public service provision. The measures under component 2.2 incentivise support for functional and actual mergers of local government units. The reforms in the public administration are supported by targeted investments in the digitalisation of the public administration, interoperability, the upgrading of IT systems, including in human resource management.

Component 2.1 of the plan is dedicated to reinforcing the capacity and efficiency of the public administration to design and implement public projects and policies at central and local level (CSRs 2019.3.4 and 2020.4.1). The overall objective of the envisaged measures is to improve the quality of public policy making, increase the public administration capacity by enhancing coordination among relevant ministries and improving the implementation phase. More specifically, the reform will strengthen mechanisms for coordination and integration of public policies, link currently separate processes and

procedures, broaden the scope and application of public policy and regulatory impact assessment processes, and professionalise strategic planning and impact assessments of regulations. These measures are supported by investments in the digitalisation of processes for strategic planning and impact assessment as well as investments to provide assistance to final recipients in the preparation of tender project-technical files.

The plan addresses recommendations to improve the efficiency of the judicial system and to reduce the duration of court proceedings and improve electronic communication in courts (CSR 2020.4.2 and CSR 2019.4.3)¹⁶. One of the main strategic objectives outlined in the plan is to improve the effectiveness of the justice system in order to contribute to the development of the economy and respond to citizens' expectations of strengthening the rule of law. The reforms include measures such as amendments to the civil procedural code and improvements to business processes in courts that will contribute to reducing backlogs and shortening court proceedings, focusing on a transparent and efficient administration of the justice system. The component also includes investments to improve the digitalisation of the justice system, particularly electronic communication between courts and parties, and upgrading the ICT system for case management.

Components 2.6 and 2.9 contribute to addressing the recommendation to enhance the prevention and sanctioning of corruption, in particular at the local level (CSR 2019.4.2). Component 2.6 includes measures to i) increase the efficiency, coherence and openness of authorities in the fight against corruption, ii) improve the implementation of the Law on the Right of Access to Information, iii) enhance corporate governance in majority-owned companies of local and regional self-government units and iv) strengthen judicial redress capacity in public procurement procedures. While component 2.9 primarily aims at enhancing the transparency and efficiency of public procurement, it also contributes to the fight against corruption by shortening the average time limit for appeals and upgrading the functions of the current public procurement system.

Component 1.1 of the plan deals with recommendations to improve the business environment in Croatia and address barriers to growth and investment (CSRs 2019.4.4, 2019.4.5 and 2020.3.1, 2020.3.2, 2020.3.3). It takes a broad, horizontal approach in addressing some of the structural weaknesses of the Croatian economy, including a cumbersome business environment, relatively low investments by the private sector, and limited access to financing by the most innovative companies. This component addresses the CSRs to provide liquidity to small- and medium-size companies, reduce para-fiscal charges and excessive product and services market regulation, promoting private investments and focusing investments on the green and digital transition. The package of reforms includes further liberalising regulated professions, increasing access to credit with the help of grants, concessional loans and equity instruments, attracting foreign direct investments and supporting the cultural and creative sectors in their digital transition. The proposed measures should help to achieve a better allocation of capital resources within the economy by devising

¹⁶ According to the 2021 EU Justice Scoreboard, backlogs and length of proceedings remain among the most considerable in the EU, and the Information and Communication Technologies (ICT) for case management and the electronic communication between courts and parties remain among the least developed in the EU.

changes to the regulatory framework to incentivise private sector investment. Reforms are accompanied by grants and concessional financial instruments to support businesses, particularly for adopting green technologies; and improving access to alternative or innovative ways of financing. Investments also include – for example – the digitalisation of government and public administration services provided to the business sector, as well as interventions to enhance the digital transformation of Croatian companies by providing financial support for the deployment of digital solutions in their business operations.

Component 2.4 addresses the recommendation (on improving corporate governance of SOEs and intensifying the sale of non-strategic assets (CSR 2019.4.1)). State-Owned Enterprises (SOEs) play a significant role in the Croatian economy. The proposed reforms envisage an update of the list of SOEs that have a strategic interest to Croatia, as well as the adoption of a new legislation which would implement the OECD recommendations, harmonise the regulatory framework for the corporate governance of SOEs, and strengthen the SOEs board's autonomy and independence. Further measures aim to strengthen the human and institutional capacities at the central government level with a view to setting the financial and operational objectives of SOEs. The plan also includes a commitment, although limited, to reduce the number of SOEs which are non-strategic. Overall, improving corporate governance in strategic SOEs and therefore their efficiency, together with the continued reduction in the portfolio of government assets can lead to a distinct rise in overall productivity. Component 2.4 also contributes to the fulfilment of Croatia's post-ERM II-accession commitments. Overall, the plan constitutes a comprehensive package of reforms and investments directed at addressing the challenges identified in the European Semester, particularly the country-specific recommendations.

Taking into consideration the reforms and investments envisaged by Croatia, its recovery and resilience plan is expected to contribute to effectively addressing all or a significant subset of challenges identified in the country-specific recommendations, or challenges in other relevant documents officially adopted by the Commission under the European Semester, and the recovery and resilience plan represents an adequate response to the economic and social situation of Croatia. This would warrant a rating of A under the assessment criterion 2.2 in Annex V to the RRF Regulation.

Table 4.2 Mapping of country challenges identified in 2019-20 country-specific recommendations and the Croatia RRP components

Country challenges (as identified in Section 2)	Associated CSR (2019-2020)	C1.1. Strengthening competitiveness and green transition of the economy	C1.2. Energy transition for a sustainable economy	C1.3. Improving water and waste management	C1.4. Development of a competitive, energy sustainable and efficient transport system	C1.5. Improving the use of natural resources and strengthening the food supply chain	C1.6. Development of sustainable, innovative and sustainable tourism	C2.1. Capacity building for the development and implementation of public policies and projects	C2.2. Further improvement of the efficiency of public administration	C2.3. Digital transition of society and economy	C2.4. Improving the management of State Assets	C2.5. Enhancing the efficiency of the judiciary system	C2.6. Strengthening of the framework for corruption prevention	C2.7. Enhancing the fiscal framework	C2.8. Building up the anti-money laundering framework	C2.9. Public procurement	C3.1. Education system reform	C3.2. Increasing research and innovation capacity	C4.1. Improving employment measures and legal framework for modern labour market	C4.2. Development and improvement of the pension system	C4.3. Improving the social welfare system	C5.1. Strengthening the resilience of the health system	C6.1. Decarbonisation of buildings	
<i>Public Finances</i>																								
Fiscal policy and fiscal governance	2019 1.1								●						●									
<i>Financial Sector</i>																								
Access to finance	2020 3.1	●	○	○	○	○	○																	
<i>Labour market, education and social policies</i>																								
Active labour market policies	2019 2.3, 2020 2.1																			●				
Wages & wage setting	2019 2.4								●															
Poverty reduction & social inclusion	2019 2.2, 2020 2.2																		●	●	●			
Education, skills & life-long learning	2019.2.1, 2020 2.4	○					○			○							●		●		○	○		
<i>Health care</i>																								
Health care	2020 1.2																					●	●	
<i>Green and digital transition and other structural policies</i>																								
Research & innovation	2019 3.1	○			○														●					
Energy, resources & climate change	2019 3.3, 2020 3.8		●	○																				●
Transport	2019 3.2, 2020 3.7		○		●																			
Green and digital transition	2020 3.6, 2020 3.9, 2020 2.3	●	●	●	●	●	○			●													●	●
<i>Public administration, judiciary & business environment</i>																								
Business Environment	2019 4.4, 4.5 and 2020 3.2, 3.3, 3.4, 3.5	●	●	●	●		○																	
Public administration	2019 1.2, 2019 3.4, 2020 4.1								●	●	●						●							
State-owned enterprises	2019 4.1										●													
Civil justice	2019 4.3, 2020 4.2											●												
Corruption	2019 4.2												●			●								

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

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 investments financed by the Recovery and Resilience Facility are expected to foster economic growth already in the short- to medium-term. The much needed boost to Croatia's economy in the aftermath of the COVID-19 crisis will be ensured through numerous investments and consumption worth over EUR 6.3 billion, or more than 11½ % of Croatia's 2019 GDP. Although investments in a small and open economy like Croatia's feature a comparatively big import component which moderates their immediate impact on GDP growth, the impact is still substantial. The short-term impact of the plan was projected using PACMAN, a simultaneous equation error correction macroeconomic model. The results project GDP to be almost 4% higher in the last year of the plan compared to the no-RRF baseline. This growth estimate in excess of the baseline scenario is somewhat higher than a simulation conducted by the Commission using the QUEST model (although due to methodological differences the two are not fully comparable).

In the longer term, the RRF is expected to raise Croatia's growth potential through several channels. The additional investments will increase the capital stock in the economy while requiring additional employment. These developments will raise the capital and labour contribution to potential growth, respectively. Furthermore, the structure of investments is expected to raise potential growth, mainly by improving productivity. Research and innovation investments worth EUR 320 million are set to benefit competitiveness and productivity, while the funding of upskilling vouchers for 30,000 final recipients is set to improve the competitiveness of the workforce and reduce skills gaps and mismatches on the labour market. Moreover, together with outreach initiatives, upskilling should help raise the chronically-low activity rate as it is particularly focused on improving the employability of the most vulnerable beneficiaries. Substantial investments in education will enable a switch to one-shift schooling, improving education outcomes. Likewise, a positive effect on human capital in the long run is expected to come from investments in the modernisation of facilities and processes in healthcare. Numerous investments in green and digital technologies and skills are also expected to benefit the productivity of workforce and corporates and are in line with the EU update of the 2020 New Industrial Strategy¹⁷. Green investments should increase the circularity of Croatia's economy, making it more sustainable and crowding-in additional investments over time. Similarly, digital investments (e.g. in broadband infrastructure) will enable the roll-out of existing and future technologies to new areas (particularly rural) and applications. Investments in transport will positively affect exporters, reduce congestion and pollution and benefit labour mobility and

¹⁷ See European Commission, Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery, COM(2021) 350 final, 05.05.2021

regional links, while investments in clean energy and carbon capture will help achieve the emission reduction targets.

Box 2. Stylised Next Generation EU impact simulations with QUEST – Croatia

Model simulations conducted by the Commission using the QUEST model show that the economic impact of the NGEU in Croatia could lead to an increase of GDP of between 1.9% and 2.9% by 2026.^[1] After 20 years, GDP could be 1.1% higher. Spillovers account for a sizeable part of such impact.

According to these simulations, this would translate into up to 21,000 additional jobs. Cross border (GDP) spillovers account for 0.5 pps in 2026, showing the value added of synchronised expenditure across Member States (line 2). Even in a scenario with lower productivity of NGEU funds, the impact is still significant (line 3).^[2]

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 Croatian GDP by 15% in 20 years’ time, more than the 11% found for the EU average, the difference reflecting Croatia’s relatively larger gaps vis-a-vis best performers .^[3]

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 Croatia’s RRP.**

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

Scenario	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040
Baseline	1.5	2.6	2.5	2.6	2.7	2.9	2.1	1.3	1.5	1.6	1.1
<i>of which spillover</i>	<i>0.4</i>	<i>0.5</i>	<i>0.5</i>	<i>0.5</i>	<i>0.5</i>	<i>0.5</i>	<i>0.4</i>	<i>0.3</i>	<i>0.3</i>	<i>0.2</i>	<i>0.1</i>
Low productivity	1.3	2.2	1.9	1.8	1.9	1.9	1.0	0.2	0.4	0.5	0.5

^[1] RRF amounts to roughly 90% of NGEU, which also includes ReactEU, Horizon, InvestEU, JTF, Rural Development and RescEU.

^[2] Technically, the low productivity scenario considers a significantly reduced output elasticity of public capital.

^[3] 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.

Meanwhile, reform measures are set to modernize Croatia’s economy and increase its efficiency. Reforms benefitting the business environment, namely the reductions in para-fiscal charges and administrative burden, should free up resources of the private sector, benefitting its investment and output. Liberalising regulated professions will increase competition in the market, benefitting consumers and adding jobs. Anti-corruption measures, reductions in case backlogs and resolution times and process improvements in the justice system are expected to positively affect investor confidence, making Croatia more attractive to inbound investments and

know-how transfer. Professionalization and efficiency-increasing reforms in the public administration will benefit citizens and businesses and reduce the upward pressure on public spending as a means to improve the quality of public services. The divestment of ownership stakes will shift more factors of production from the less productive public sector to the more productive private sector, which should help increase Croatia's low allocative efficiency.

In sum, the implementation of the recovery and resilience plan will boost economic recovery in an inclusive way and address the weaknesses of Croatia's economy in the longer term. The implementation of the investments and reforms in the plan will help address Croatia's key economic weaknesses – its comparatively low employment and growth potential. In the short run, the sheer volume of investments will mechanically translate into stronger growth and job creation. In the medium and long run, those effects will be bolstered by the positive spill-over effects stemming from the structure of investments (i.e. type and quality of projects) and a positive impact of reforms on productivity and value creation. At the same time, the investments should not contribute to new debt, thus preserving the soundness of Croatia's public finances and supporting the unwinding of Croatia's macroeconomic imbalances related to high external debt.

Strengthening social cohesion

The plan features substantial measures aimed at improving the employability of the most vulnerable persons, thus reducing social exclusion and poverty. The risk of poverty and social exclusion in Croatia is closely linked to unemployment and inactivity. As reflected in the very low share of Croatian citizens in work that are at risk of poverty (5.1%), transitioning into employment is a very effective pathway out of poverty and social exclusion. For this reason, some of the most important measures with a social impact in the Croatian recovery and resilience plan are active labour market policies (ALMPs). The ALMPs introduced and funded by the plan are the support grants for employment, self-employment and traineeships in green and digital areas and vouchers to finance upskilling. Importantly, both measures feature a special focus on the most vulnerable groups. Similarly, the plan commits the Croatian Public Employment Service to conduct outreach activities tailored towards those farthest away from the labour market and re-orient its working processes to better fit the needs of people with multiple barriers to employment. The plan also features policies to foster transition from undeclared to declared work in a way that protects workers' rights. All of these features should maximise the effect of employment-related measures on improving social cohesion.

At the same time, the plan features measures directly aimed at countering poverty and social exclusion from inactivity and unemployment and among pensioners. The plan commits to both increasing the adequacy and broadening the coverage of the Guaranteed Minimum Benefit, the key benefit designed to reduce poverty. Similarly, the amount of the unemployment benefit will be increased and its duration prolonged. Furthermore, social mentorship will be developed to cater for the most disadvantaged persons, including long-term unemployed, people with disabilities, victims of violence, homeless people, migrants, Roma, ex-convicts and others. The aim of this measure will be to integrate the final recipients in the community, reduce their social exclusion and improve their employability through an

individualised approach. When it comes to people beyond working age, the plan commits to an increase in the minimum pension of at least 3% in real terms and an increase in the survivor's pension between 10% and 15%.

Investments in social infrastructure coupled with strengthened deinstitutionalisation efforts will improve the quality of social services. Investments in new early childhood education and care (ECEC) will improve access to ECEC and investments in primary school capacities are expected to improve the quality of education, positively affecting outcomes for children, but also indirectly activity rates among women. The plan also commits to developing a strategic framework for accessible care for the elderly and the development of community services to prevent institutionalisation and advance long-term care. Meanwhile, new elderly care facilities will be financed for the provision of care for elderly people who depend entirely on institutional care and whose needs cannot be provided through out-of-institutional services.

Reducing vulnerability and increasing resilience

The nature of investments in the plan is conducive to reducing Croatia's reliance on the non-tradable sector. One of the main structural vulnerabilities of Croatia's economy is the composition of its current account flows, which rely strongly on proceeds from tourism. This vulnerability materialised in 2020, as illustrated by the decline in output which was particularly steep compared to peers because the COVID-19 crisis has been especially detrimental to the tourism sector (see section 2.1). Similarly, investments have historically been biased towards non-tradable sectors (retail trade, finance, tourism). To reduce the reliance on the non-tradable sectors, it is essential to create conditions for strong growth in the tradable sectors of the economy. Of vital importance to that end are the substantial investments (including considerable grants for private investments) in green and digital technologies and skills, research and innovation capacity, transport and energy. All of those investments should strengthen the competitiveness of manufacturing firms, enabling a continuation of strong goods exports performance witnessed after Croatia's EU accession. Moreover, investments in agriculture infrastructure should enable productivity gains which are crucial for this tradable sector characterized by low added value.

Similarly, reforms are expected to improve the environment for the tradable sector to excel. Reforms that cut red tape and reduce the financial burden on businesses disproportionately benefit small and medium enterprises, as they free up a relatively big share of their resources. As such, those reforms are conducive to exports growth on the extensive margin (i.e., driven by a growing number of exporting firms). At the same time, reforms that strengthen the science base and research and innovation capacity benefit the pockets of excellence within the economy, nurturing growth of exported goods on the intensive margin (i.e., driven by existing exporters increasing the volume of their exports). Finally, reforms that strengthen institutions and the judiciary create a better environment to invest in tradable sectors, as they reduce the risk premium (easier to offset in case of investments in non-tradable sectors, which tend to be more strongly collateralized).

The implementation of the plan is expected to help increase social and institutional resilience of the country. Investments in the healthcare sector are aimed to improve hospital infrastructure, strengthen their governance and improve the framework for public health and emergency medicine. All of these aspects are important for reinforcing the capacity of Croatia's healthcare system to respond to shocks the likes of the COVID-19 pandemic. Investments in energy infrastructure will enable Croatia to rely more on its own energy sources, thus improving its energy security. Social and labour market policies aimed at fighting poverty, protecting people out of work and increasing their employability are essential to increase the resilience of social structures and institutions. Reforms related to anti-money laundering, anti-corruption and strengthening of the justice system, improvements in public administration and SOE governance strengthen the rule of law and institutional resilience.

Cohesion and convergence

The plan is expected to support the reduction of economic and social inequalities and territorial disparity. A substantial share of measures include provisions and considerations that specifically cater to the disadvantaged groups in society. The most prominent examples include commitments to improve the adequacy and broaden the coverage of social benefits towards the most vulnerable citizens, to focus upskilling measures and outreach activities on those farthest away from the labour market and to increase the minimum pension. Meanwhile, several sizable investments will particularly benefit remote and less developed areas. Notable examples include investments in rail infrastructure, island connectivity and energy production (biorefinery). Substantial investments in agriculture infrastructure will help increase the productivity and competitiveness of farmers, who are most concentrated in the disadvantaged eastern part of the country, which has also been hit hardest by outward migration in recent years. Furthermore, investments in reconstruction and energy efficiency of buildings damaged in the 2020 earthquakes will benefit five counties, of which three (Sisak-Moslavina, Krapina-Zagorje and Karlovac) are among the least developed ones. Moreover, energy efficiency gains benefit lower-income households the most, since energy costs represent a disproportionately high share of their consumption. Residents in remote areas, including islands, will also benefit from the introduction of mobile clinics and pharmacies aimed to improve access to healthcare.

In addition to investments, reforms are expected to increase the speed of Croatia's convergence with the EU. The obstacles that hold back Croatia's rate of catching-up with the EU countries are the same obstacles that undermine its potential growth. Most notably, they include low activity and employment rates, economic frictions stemming from restrictive regulations and an extensive presence of the state in the economy which results in low allocative efficiency of the factors of production. Low employment and activity rates have in part been due to weak job creation and in part due to skills gaps and mismatches in the labour market. Job creation has been on the rise in the several years before the pandemic and is expected to resume as the economy recovers and the Recovery and Resilience Facility investments materialise. Furthermore, the economy should add jobs as reforms increase competition in the market and free up resources of the more productive private sector. Meanwhile, active labour market policies should help reduce skills gaps and mismatches. Finally, the aforementioned positive impact of

reforms on productivity should contribute to lifting the growth potential through the TFP contribution, allowing Croatia to increase its rate of convergence.

Taking into consideration all reforms and investments envisaged by Croatia, 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, to effectively contribute to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and to effectively mitigate 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

The Social Scoreboard supporting the European Pillar of Social Rights identifies a number of employment and social challenges in Croatia. Despite overall improvements - observed until 2020, including the reduction of the unemployment and long-term unemployment rates, challenges related to the labour market, as well as social protection and inclusion, remain and are further emphasized by the COVID-19 crisis. The employment rate is still critically low, in particular among young people, older workers, the low skilled and persons with disabilities. The rate of young people not in employment, education or training (NEET) increased again in 2020. There are concerns regarding the effectiveness of active labour market policies and the remaining pathways to early retirement. The share of early school leavers in Croatia is well below the EU average. Nonetheless, access to and quality of education and training for young people and adults remain a challenge. Low participation of children

Social Scoreboard for CROATIA						
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24) (2020)					
	Youth NEET (% of total population aged 15-24) (2020)					
	Gender employment gap (2020)					
	Income quintile ratio (S80/S20) (2019)					
Dynamic labour markets and fair working conditions	At risk of poverty or social exclusion (in %) (2019)					
	Employment rate (% population aged 20-64) (2020)					
	Unemployment rate (% population aged 15-74) (2020)					
	Long term unemployment (% population aged 15-74) (2020)					
	GDHI per capita growth (2019)					
Social protection and inclusion	Net earnings of a full-time single worker earning AW (2019)					
	Impact of social transfers (other than pensions) on poverty reduction (2019)					
	Children aged less than 3 years in formal childcare (2019)					
	Self-reported unmet need for medical care (2019)					
	Individuals' level of digital skills (2019)					
Critical situation	To watch	Weak but improving	Good but to monitor	On average	Better than average	Best performers

Update of 29 April 2021. Member States are classified on the Social Scoreboard according to a statistical methodology agreed with the EMCO and SPC Committees. It looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories. For methodological details, please consult the Joint Employment Report 2021; NEET: neither in employment nor in education and training; GDHI: gross disposable household income.

aged less than 3 years in formal childcare is particularly critical and further deteriorated in 2019. Participation in early childhood education from the age of 3 to compulsory education is also low, though it is improving. The number of early leavers from education and training is the lowest in the EU, but basic skills and tertiary education attainment are low with significant gender gaps.

The impact of social transfers on poverty reduction remains limited. While poverty has been gradually decreasing in the years before the crisis, the pandemic may reverse this trend. In 2019, the at risk of poverty or social exclusion rate was still above the EU average (23.3% vs 20.9% in the EU) and the rate of people persistently exposed to poverty remained high. The elderly, persons with disabilities and those living in jobless households are relatively more exposed to poverty risks. Both the coverage and adequacy of the unemployment benefit scheme remain low. The poverty reduction capacity of minimum income benefits is also weak. Overall, the poverty reduction capacity of social transfers in 2019 further deteriorated (0.2pps).

The recovery and resilience plan submitted by Croatia addresses a multitude of employment and social challenges relevant for the implementation of the Pillar. To foster equal opportunities and access to the labour market, the plan envisages a new strategy for adult learning and a modernisation of the upskilling and reskilling system. The reform would redesign and upgrade the current fragmented programmes, establishing new curricula linked to labour market needs and an

assessment framework for the providers of upskilling programmes. To improve labour market dynamics and working conditions, Croatia also plans significant investments in ALMPs that will complement activation programmes supported by the ESF. Although the proposed investments also target the inactive population and those facing multiple employment barriers, the need to develop a comprehensive activation strategy remains relevant. In this sense, an integrated approach to providing employment and social services should be strengthened. The aforementioned measures would also be complemented by a labour law reform aimed at

improving the labour market functioning, including via the establishment of a framework to fight undeclared work.

With more people likely to fall back on the basic safety nets due to the COVID-19 crisis, reforms of the social protection and inclusion systems are important in order to provide much needed support, in synergy with ESF funding. The plan includes various interventions in the social area, aimed, among others, at expanding access to early childhood education and care, developing digital solutions to exchange data on social benefits, introducing social mentoring services to promote employment and social inclusion and increasing long-term care capacity. However, the interventions lack an overall strategic framework and ambition for strengthening access to and adequacy of social benefits and services and improving the efficiency of the current complex system of social protection. Reform proposals aimed at tackling the critically low adequacy of pensions are expected to induce only a limited positive impact.

4.4. The principle of ‘do no significant harm’

The RRF Regulation provides that no measure included in the recovery and resilience plan should lead to significant harm to any of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation¹⁸. In line with the RRF Regulation and the Technical Guidance on the Application of ‘do no significant harm’¹⁹ (‘DNSH Technical Guidance’), Member States provide a ‘do no significant harm’ (DNSH) assessment, on which basis the Commission assesses whether the plan is expected to ensure that no measure does significant harm. DNSH compliance is therefore a necessary condition for the Commission to positively assess the recovery and resilience plan. Croatia has included a detailed DNSH assessment for each measure included in its plan in accordance with the template provided by the Commission, and in line with the DNSH Technical Guidance. The Commission has assessed whether and how each measure in the Croatian plan complies with DNSH on that basis.

Croatia demonstrated compliance with the DNSH principle by only selecting or designing measures complying with DNSH, and by fully substantiating compliance as part of the DNSH assessment. By selecting measures that either contribute substantially to environmental objectives, such as those on reforestation, or have no or an insignificant foreseeable impact on environmental objectives (such as those on labour market, social policy, or public administration), many measures in the Croatian plan can be considered DNSH compliant from the outset. Other measures are designed to ensure compliance with DNSH, directly or by requiring specific evidence and commitments through milestones and targets to substantiate that they will not lead to significant harm to environmental objectives.

A summary of the most relevant issues is presented hereafter.

¹⁸ The six environmental objectives comprise (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) the circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems.

¹⁹ 2021/C58/01

DNSH-compliant measures facilitate the green transition with investments in the energy and transport segments of the Croatian economy. The self-assessment clarified compliance, in particular for investments in the energy component 1.2, where the upgrading of the high-voltage network will enable a larger supply of renewable energy, and the submarine cables will be laid, or the distribution network will be upgraded. In addition, sensitivity mapping of the renewable energy sources investment will ensure that infrastructure placed within Natura 2000 protected areas complies with applicable environmental rules and the biorefinery is based on the sustainable sourcing of biomass according to the criteria of the recast Renewable Energy Directive. For the development of two CO₂ capture and geological storage facilities in Croatia, the authorities have committed to thoroughly analyse the possible environmental implications, and to exclude that technologies, facilities or equipment are engineered towards enhanced oil recovery, while ensuring that any possible extraction of oil or gas is limited to the indispensable needs of managing pressure and ensuring safety of the storage sites. For exploring geothermal potential, the authorities have confirmed that project will not include any exploration or extraction of either oil or gas, and it shall be ensured that geothermal drilling would have no harmful impact on water scarcity and water quality, nor any methane releases. In component 1.4, investment in public transportation vehicles has been limited to electric and hydrogen vehicles and vessels, and the investments at the Zadar airport has been focused on the provision of fixed electrical connections to stationary aircraft, replacement of diesel-fuelled ground handling equipment and construction of photovoltaic power plant and charging stations. This measure will contribute to the overall reduction of the greenhouse gases. A reform and investments of the railway sector under component 1.4 include investing in removing bottlenecks in the railway sector, as well digitalising and electrifying the railway lines. Also, railway investments in the TEN-T core network and suburban rail, interventions in the rail infrastructure, including projects on the TEN-T core network and on suburban rail, are also meant to modernise and electrify the network, which support switching from road to rail and in that way contribute to the reduction of the CO₂ emissions.

Measures related to the construction and reconstruction of buildings as well as to the water and waste management are also contributing to the green transition and are DNSH-compliant. For the construction and renovation of residential and public buildings (under the Renovation of buildings initiative, and the components Judicial system, Research and innovation, Labour market and Healthcare and long-term care), the respect of the principle will be ensured through compliance with the minimum requirements in the Energy Performance of Buildings Directive and respecting the circular economy principles when it comes to construction waste. This is achieved by ensuring that 70% of the construction waste will be recycled. For water measures included in component 1.3, compliance with the DNSH principle will be ensured inter alia by requiring that any work regarding flood protection investments prioritises nature-based solutions and is in line with the Water Framework Directive. Lastly, compliance of the investment into a Medical Waste Facility in Clinical Hospital Centre (KBC) Zagreb shall be assured by treatment of only non-recyclable hazardous medical waste generated on site, as well as continuous facility emissions monitoring and assuring no impact on air quality, non-recyclable hazardous medical waste generated on site, as well as continuous facility emissions monitoring and assuring no impact on air quality.

The Croatian plan includes measures of a horizontal nature, which are designed to be DNSH compliant. As set out in the DNSH Technical Guidance, measures of a more general nature, such as broad industry support schemes (e.g., financial instruments facilitating investments by companies across multiple sectors) and research and innovation support schemes, should be designed to ensure adherence of the relevant investments with DNSH. The Croatian plan contains such broad measures, such as financial instruments, providing guarantees and affordable loans and equity funding to companies, or measures to support the development of innovative products and services. For these – as for other more specific measures – Croatia will, inter alia, apply selection criteria that are based on an exclusion list that excludes from support investments related to:

- fossil fuels,
- activities under the ETS with projected CO₂ equivalent emissions that are not substantially lower than the relevant benchmarks established for free allocation,
- investments in facilities for the disposal of waste in landfill, in mechanical biological treatment (MBT) plants, and
- incinerators for the treatment of waste, and activities where the long-term disposal of waste may cause long-term harm to the environment.

Through this approach, Croatia ensures that the broad measures included in the plan are DNSH compliant.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Croatia'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

Croatia's recovery and resilience plan correctly follows the methodology for climate tracking in accordance with Annex VI to the Regulation, by identifying intervention fields and corresponding coefficients for calculation of support to climate change objectives, for relevant investment measures. In cases where the selected intervention field includes specific conditions to justify the climate contribution, those are explained in the description of the measure and reflected in the milestones and targets for the relevant component. In particular, this has been done for investments regarding the energy renovation of buildings, construction of new energy-efficient buildings, green horizontal schemes for support to SMEs and large enterprises, and water supply investments compliant with energy-efficient criteria.

To ensure that the climate contribution of certain measures is not overestimated, Croatia split the measures into sub-measures to the extent possible, with relevant intervention field for each sub-measure. In such cases, Croatia provided a weighted average of the contribution to

the climate objectives for the relevant measure, in line with required methodology. Consistently with the latter, Croatia excluded from the climate tracking the costs for seismic or static renovation of buildings (the plan's initiative of building renovation). The plan does not propose any increased climate coefficient for any measure.

As an exceptional case, two different intervention fields for climate tracking and digital tagging have been selected for the investment related to autonomous electric vehicles. This has been applied due to the fact that no single intervention field that reflects the contribution to both climate and digital objectives could have been applied, and as the measure is considered as fully contributing to both climate and digital objectives.

Overall, the recovery and resilience plan contributes to climate objectives for 40.3% of Croatia's allocation of EUR 6.3 billion, and the climate target of 37% is therefore considered to have been met. The most significant contributions to the climate target are provided by measures under the Components 1 and 6 of the plan. In particular, the plan allocates (i) more than EUR 147 million for horizontal investment schemes to support green investments in business; (ii) EUR 418 million to promote the deployment of renewables by upgrading the electricity grid and investing in geothermal energy for district heating; (iii) EUR 165 million to promote alternative fuels by constructing a plant for production of advanced biofuels, as well as renewable hydrogen production capacity and corresponding infrastructure; (iv) EUR 217 million to improve flood protection and access to drinking water; (v) EUR 228 million to upgrade and digitalise TEN-T rail infrastructure; (vi) EUR 135 million for development of green skills; and (vii) EUR 625 million for energy efficiency renovation of buildings. In addition, important investments contributing to the climate target include the construction of energy-efficient buildings in various sectors, as well as investments into sustainable mobility for modernisation of vehicles and vessels.

Green transition

The plan allocates a significant part of reforms and investments to the objective of addressing the challenges of the green transition. Planned measures are aligned with the National Energy and Climate Plan and aim at being complementary with the future Territorial Just Transition Plans. As such, they are expected to directly contribute to the EU's 2030 climate targets and 2050 climate neutrality objective. Specific measures are expected to contribute to meeting national and EU's targets for environmental policy, directly focusing on waste management, water supply and wastewater treatment, flood protection, sustainable mobility, sustainable food systems and biodiversity protection.

The planned contribution to the climate and environmental objectives from the Facility amounts to EUR 3.3 billion. Component 1 (Economy) and initiative 6 (Building renovation) are primarily focused on green transition, while individual measures in other components further contribute to addressing the green transition objectives. The planned reforms and investments are expected to contribute to the objectives of the European Green Deal, and will support Croatia's green transition and sustainable economic recovery. The plan addresses the main sustainability challenges faced by Croatia.

The Croatian recovery and resilience plan puts substantial focus on the climate and energy transition. In particular, proposed measures address some key policy challenges, in line with the Commission's recommendation on the National Energy and Climate Plan. The plan includes important reforms and investments to promote (i) energy efficiency, (ii) renewable energy, and (iii) sustainable mobility. Mature investment projects will be frontloaded as much as possible, as well as key enabling reforms, such as those addressing investment barriers to renewables.

The plan includes a dedicated initiative for the energy-efficiency renovation of buildings (Initiative - Renovation of buildings), in the context of post-earthquake reconstruction. Measures include various types of buildings, including both residential and public buildings, such as health and educational facilities, as well as buildings with the status of a cultural good. Post-earthquake renovation investments will be complementary to ongoing earthquake reconstruction activities supported by the Solidarity Fund. In total, RRF funds will support the renovation of at least 225,000 m² of private building stock, 522,000 m² of public buildings and 31,000 m² of buildings with a status of a cultural good. The investments will achieve on average at least an increase of 30% primary energy savings compared to the pre-renovation state. The building renovation initiative will directly contribute to the Renovation Wave. In terms of enabling reforms supporting the reduction of energy consumptions and greenhouse gas emissions in buildings, the plan includes a pilot project for the establishment of an energy management system that should contribute to the development of a new financing model for the renovation of the public building stock, as well as tailored support to develop workforce skills in the context of the post-earthquake reconstruction and energy efficiency renovations.

In addition, the plan includes investments for construction and reconstruction of energy-efficient buildings in various sectors, including education, judiciary and social infrastructure. The plan contains some measures to address energy poverty. The plan includes further energy efficiency measures, such as schemes to promote energy efficiency in industrial processes (component 1.2.), as well as energy efficiency measures and uptake of green technologies in SMEs and large enterprises (components 1.1. and 1.6).

It is expected that the plan will substantially contribute to the reductions of final and primary energy consumption, in line with the NECP objectives and 2030 energy efficiency targets. The energy efficiency measures in building renovation and industrial processes will support this contribution, although the total expected energy savings from these measures are not quantified at this point. However, further investments in building renovations and energy efficiency would be needed in the next years to deliver on the objectives set out in the 2030 National Energy and Climate Plan and the Long-Term Renovation Strategy. In particular, additional efforts will be needed in order to leverage additional private capital for building renovations and energy efficiency measures in industrial processes, and to uphold the Energy Efficiency First principle.

On renewable energy, the legislative reforms proposed will address administrative and regulatory obstacles to unlock Croatia's potential for renewable energy, especially in the southern part of the country. Investments include upgrade of the electricity grid to enable

additional 1,500MW of RES capacity to be connected to the grid. The plan does not contain specific measures to increase the deployment of wind or solar energy, but aims to provide a stable legislative framework for potential investors, by introducing a premium system for the support of investment in renewables, outlining a long-term investment plan and mapping of potential RES locations, taking into account the potential impact on Natura2000 protected sites. Upgrades to the grid will be complemented by increased deployment of smart meters, which will enable further development of an active role of customers in the energy market. Renewed connections of 6 islands to the mainland grid will improve their energy security, in line with the recommendations made in the European Commission's assessment of Croatia's National Energy and Climate Plan (NECP) to support efficient investments in infrastructure for national energy security goals²⁰. The plan also addresses the need to increase the share of renewables in the heating and cooling sector, focusing on deployment of geothermal energy in district heating.

The plan entails comprehensive reforms and investments to increase the contribution of renewables, specifically in the transport sector. The plan includes the adoption of a legislative framework to promote the production and use of advanced biofuels in transport, with a dedicated strategy to foster development of hydrogen. These reforms are complemented by major infrastructure investments: construction of a biorefinery with annual production capacity of 55,000 tonnes of advanced bioethanol; first production of renewable hydrogen based on electrolysis; as well as introduction of hydrogen charging stations across the country. These investments will make a substantial contribution to Croatia's target to achieve a 14% share of renewables in the transport energy mix by 2030, while also contributing to the creation of green jobs in a lagging region.

The plan addresses the main challenges of sustainable mobility transition, supporting infrastructure development of low-carbon transportation modes. In the rail sector, major investments are targeted towards modernisation and electrification of TEN-T rail network, in order to accelerate the modal shift from road to rail. For example, the plan entails the reconstruction and electrification of the 22 km railway section Dugo Selo - Novska, sub-section Kutina - Novska (EUR 140.7 million), along the TEN-T rail network and the Alpine-Western Balkans rail-freight corridor.

The plan includes dedicated measures to decarbonise public transport, in road and coastal traffic. The plan focuses on improving public transport in the City of Zagreb, with the flagship activity to develop autonomous electric taxis, as a part of a new urban mobility ecosystem. Support will be provided for the purchase of electrical and hydrogen-powered buses for public transport, as well as zero-emission passenger ships.

²⁰ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. United in delivering the Energy Union and Climate Action. Setting the foundations for a successful clean energy transition. COM/2019/285 final.

The plan includes actions to accelerate the electrification and digitalisation of road and air transport. For example, the plan includes the deployment of 1,300 charging stations for electric vehicles, incentives for the purchase of 2,000 cleaner vehicles through support schemes, and the launch of an electronic toll system for motorways (EUR 65.5 million) which is expected to reduce heavy congestion and waiting time at toll stations, reducing emissions and air pollution. Investments in Zadar airport will install fixed electrical connections to stationary aircraft, provide electrically powered aircraft ground handling equipment and promote the use of renewable energy sources, leading to a reduction of greenhouse gas emissions and environmental footprint of the transport sector.

In terms of new technologies contributing to climate mitigation, the plan contains two investments for carbon capture and geological storage. Two pilot projects will be able to capture over 240,000t of CO₂ annually, directly contributing to national GHG reductions from industrial processes. At the same time, those will serve as example projects for use of CCS technology in the EU, facilitating greater CCS deployment in the next decade.

The plan also contains adaptation measures that aim to increase resilience towards climate change. These focus on addressing the risk of floods, as one of main climate-related risks for Croatia. In particular, the plan envisages the construction of protective structures to prevent flood risks, prioritising investments into nature-based solutions and green infrastructure to the greatest extent. As a result of these investments, additional 20,000 people are expected to be protected from flood risks. In addition, component 1.3 includes extensive investments into water supply network and water metering devices with specific targets to reduce water losses, which will directly contribute to preservation of water resources.

Environmental policies

The plan contains considerable reforms and investments that contribute to the EU environmental policies, focusing on water management and the circular economy. Component 1.3 includes a major reform of the water sector, aggregating fragmented water utility companies at the municipal level. This will result in improved operational efficiency and better governance of these companies, including a new benchmarking system. The plan includes substantial infrastructure investments to upgrade water and wastewater systems, as well construction of new wastewater treatment plants, aiming to reduce compliance gap with the requirements of the Urban Wastewater Treatment Directive. Specific measures and targets are dedicated to reduction of water losses. A detailed investment plan of water and wastewater investments will be prepared, to ensure prioritisation of mature and urgent projects, as well as ensure coherence with other funding sources, notably European Regional Development Fund. As a result, 45,000 people will have improved access to drinking water, while 200,000 people will benefit from improved wastewater services.

The plan also includes reforms and investments to improve waste management and accelerate the shift to circular economy (component 1.3). A planned reform will set up a legislative framework with specific measures, including development of a circular economy roadmap, new extended producer responsibility (EPR) and pay-as-you-throw schemes. New waste management plans will commit to quantified targets for waste recycling, sorting, reusing

and repairing; as well as consider dedicated activities at local level to support the transition to the circular economy, such as potential of digital technologies. Substantial funding is allocated for new infrastructure that would reduce the share of waste sent to landfills, including recycling facilities and waste sorting centres. Investments also include remediation of 10 closed landfills.

The plan includes investments to promote the circular economy in the agriculture sector (component 1.5). A logistics infrastructure network for the fruit and vegetables sector will be established, and the capacity of the food donation chain will be strengthened, effectively contributing to the reduction of food waste. It also contains a smart farming component, which has the potential to reduce the ecological footprint of farming (e.g., minimised or site-specific application of inputs, such as fertilisers or pesticides, in precision agriculture systems will mitigate potential water pollution problems as well as emissions of greenhouse gases)

The Croatian recovery and resilience plan includes dedicated measures to support biodiversity protection and restoration. Within component 1.3, the plan includes investments to restore rivers, floodplains and lakes (e.g. Vransko lake and Trakoscan lake), as well as eliminate invasive species in sensitive area of Neretva delta. These investments will improve river habitats as well as overall ecosystem in those areas. All the measures of the plan will comply with EU and national requirements for protection of biodiversity. For example, reform of agricultural land consolidation (component 1.5) envisages that each project of land consolidation will be subject to an environmental impact assessment in relation to the protection and restoration of biodiversity. On biodiversity mainstreaming, the plan considers extensive coverage of Natura2000 areas across the Croatian territory. For example, the reform to increase the uptake of renewables in the country will consider the findings of sensitivity mapping of biodiversity locations. Integration of nature-based solutions in flood-prevention measures will also likely contribute to biodiversity objectives.

The plan's measures will indirectly contribute to improving air quality. While no measures are specifically dedicated to this objective, the plan would address low air quality mostly through investments to shift passenger and cargo transport from fossil-based transport modes (component 1.4 transport), as well as by investing in cleaner production processes of SMEs and large enterprises (components 1.1, 1.2 and 1.6.).

Lasting impact

Measures described in the recovery and resilience plan are expected to have a lasting impact towards the green transition. Measures will provide long-term contribution for improvement of energy efficiency of renovated and newly constructed buildings. Measures will support the development of alternative fuels and new transport infrastructure, with major impacts on the uptake of renewable energy and sustainably mobility in the next decade, while promoting a modal shift from road to rail. Investments into carbon capture and storage will provide demonstration of innovative technologies, with mitigation potential towards 2050 climate neutrality. On the other hand, some measures, such as support schemes to SMEs are not estimated at this point, and could have a more limited long-term impact, depending on the outcome of these demand-driven schemes.

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

4.6. Digital transition

Digital tagging

The recovery and resilience plan correctly follows the methodology for digital tracking set out in Annex VII of the Regulation, by identifying intervention fields and corresponding coefficients for the calculation of support to the digital objectives, for each investment measure. It should be noted that:

- Several measures of the plan often consist of several sub-measures – for measures where that is the case, the plan indicates an intervention field for each sub-measure and a digital tagging is computed at sub-measure level.
- The plan does not propose increased digital coefficients for any measure.
- In a limited number of cases, Croatia has indicated for the same measure, two different intervention fields for the purpose of climate and digital tagging respectively. This has been applied when the measure cannot be split into different sub-parts, when no single intervention field that reflects the contribution to both climate and digital objectives can be applied, and when the measure is considered as fully or partly contributing to both climate and digital objectives.

Overall, the recovery and resilience plan contributes to digital objectives for 20.4% (close to EUR 1.3 billion) of Croatia’s allocation of EUR 6.3 billion, and as such, the digital target of 20 % is considered to be met. The component making the most important contribution to this target is related to component C2.3, which focuses on Croatia’s digital transformation. This component (with an allocation of EUR 381 million) accounts for close to 30% of the overall digital contribution. Particularly prominent within this component is the investment for the development of broadband infrastructure (EUR 106 million). However, the single measure contributing the most to the digital target belongs to the transport component (C1.4), with the measure on autonomous electric vehicles (“research development and production of new mobility vehicles and supporting infrastructure” C1.4.R5-I2), tagged at 100% digital, accounting alone for close to 15% of the overall digital contribution (close to EUR 200 million). In the energy sub-component, the measure on “*revitalisation, construction and digitalisation of the energy system and supporting infrastructure to decarbonise the energy sector*” (C1.2.R1-I1) contributes to smart energy systems and makes an important contribution to the digital target (EUR 155 million). In the education sub-component (C3.1), the investment for the digital transformation of higher education (C3.1.R2-I1), tagged at 100% with an allocation of EUR 84 million), also makes a significant contribution to the digital target.

Digital transition

Actions to support the digital transition are present in most components of the recovery and resilience plan, reflecting the broad and crosscutting nature of the envisaged digitisation efforts. The Croatian recovery and resilience plan dedicates one component (2.3) focusing exclusively Croatia's digital transformation, with various measures to support the digitisation of public administration and the provision of digital public e-services. Investments in digital connectivity are also included to invest in digital infrastructures in remote rural areas, which are lagging behind in terms of digital inclusion. This component also includes investments in cybersecurity, with a public information campaign and upgrade of the digital tools of the Ministry of Internal Affairs to tackle cybercrime. Beyond this component dedicated to the digital transition, measures related to digital are spread across the components of the plan. Six components can be identified as contributing significantly to the digital transition, while eleven are having a partial impact (see section 4.1).

The plan includes the development of a strategic framework, “Croatia’s 2030 Digital Strategy”, which will steer the digital transformation of Croatia’s society and economy for the next decade. It will set the frame for investments in the digital transition and will define strategic objectives in the following areas: (i) digital transition of the economy, (ii) digitisation of public administration and justice, (iii) digital connectivity/development of broadband electronic communications networks and (iv) development of digital skills and digital jobs.

Connectivity

The plan includes an investment to increase national broadband coverage with very high capacity networks (VHCN) in areas where there is insufficient commercial interest. The current low digital connectivity hinders the development of Croatia's digital economy and contributes to the digital divide between urban and rural areas. The objective of this investment, with an allocation of around EUR 106 million, is to ensure the availability of Gigabit networks (VHCN including 5G networks) in rural and sparsely populated areas where there is no commercial interest in the construction of 5G networks. These measures are expected to help reduce, but not close, the digital divide in Croatia.

The plan also includes investments, for around EUR 20 million, for the construction of passive electronic communications infrastructure (such as the construction of stand-alone antenna poles, provision of fibre or microwave transmission capacity to connect mobile electronic communications network to base stations). The investments will target rural areas located in counties with the lowest socio-economic indicators and will enable the development of 5G networks in these areas.

These investments (for a total of around EUR 126 million) are however limited and below what would be required to close the significant investment gaps that have been identified for Croatia to reach the 2025 gigabit objectives. Croatia estimated an investment gap of about EUR 940 million to reach the 2025 gigabit objectives. While the private sector is expected to significantly contribute to financing investments in connectivity in Croatia, and that other national and EU funds are likely to be needed, the allocation planned under the recovery and resilience plan in terms of investment in gigabit and 5G connectivity is rather limited.

E-government and digital public services

The plan includes a number of consistent measures to improve the interoperability of information systems used by Croatia's government. This will materialize with the establishment of a central register for public authorities, which will remedy the current fragmentation, where hundreds of registers are being used by public authorities. The set-up of a central interoperable system interconnecting core registers will be in line with the European Interoperability Framework (EIF). The plan also includes an investment to establish a central database enabling the use of advanced data analytics for competent authorities.

Overall, these measures are expected to support the provision of digital public e-services and facilitate the interaction between citizens/businesses and the public administration. The central interoperable register will enable the online provision of the 21 administrative procedures listed in Annex II of Regulation (EU) 2018/1724 (the Single Digital Gateway Regulation). The introduction of advanced data analytics in the national administration will also support data-driven decision-making at all levels of the administration. These measures are expected to have a lasting impact, bringing systemic changes towards the development of interoperable systems at national level and towards data-driven decision-making.

The plan includes an investment to create a one-stop-shop harmonising and centralising the helpdesk system of all public administrations' online services. The one-stop-shop will provide a new, improved service for citizens and businesses to communicate with public administrations and will enable users to easily find the information requested. The one-stop-shop will also have features to enable users to send feedback, assess the quality of interaction with civil servants and post evaluation. This investment is expected to have a lasting impact, transforming the interaction between Croatia's public administration and its users. The plan also includes an investment to enable citizens to easily use online public services on their smartphones, by creating a mobile e-service platform. While the existing "eCitizens services" have been developed for personal computers and are currently not adapted to mobile devices, a platform adapted to mobile applications is now needed. The plan also promotes the use of electronic signatures in citizens' interaction with the public administration. It includes an investment for the deployment of Croatia's digital identity card to enable users of e-IDs to sign documents on mobile platforms.

The plan includes a significant investment to expand the capacity of the State cloud (Shared Services Center, 'CDU') to enable a large increase in the number of users and upgrade it with the development of new functionalities. The Shared Services Center (CDU) platform will be integrated into the Common European Data Spaces to enable secure hosting, access and modification of data and services at EU level.

These investments are expected to have a long-lasting impact on the digital transition of the public administration, strengthening the interoperability capacities of its digital services and ensuring that the public administration is closer to citizens and businesses. They will equally strengthen the capacity of the administration to exploit data for decision-making, to expand the availability of electronic identification solutions and to enhance interoperability and transition to cloud, leading to greater functional integration of services. The investments are also expected to increase the efficiency of public administration, with significant costs savings associated with the digitalisation of services and digitisation of archives.

Human Capital

The recovery and resilience plan includes investments to support the development of digital skills. In complement to the ongoing “e-Schools project” aimed at upgrading teachers’ and students’ digital skills, the plan includes the continuation of the reform of the education system. The reform is expected to, inter alia, improve the basic skills of pupils through increased instruction time and strengthen the link between vocational and adult education on the one hand and the labour market on the other. Part of this reform includes the development of new curricula, which will include a focus on the digital transition.

The plan also supports the digital transformation of higher education, with investments to equip public higher education institutions with modern teaching digital infrastructures and support online learning. At a time of expansion of digital learning and teaching tools, Croatia is confronted with insufficient and uneven equipment of higher education institutions, affecting the quality of higher education. The plan includes investments in digital teaching infrastructure and digital teaching tools. The plan also supports the development of a digital register of diplomas, which will be a significant step in the development of a graduate tracking system and aid to their integration into the labour market.

Digitalisation of businesses

The plan includes measures to support businesses in adapting their operations to the digital environment, with a special focus on the cultural and creative sectors which were hit particularly hard by the COVID-19 crisis. Measures include a voucher system to support SMEs that want to develop a digital business model, strengthen their capacity to digitalise, or improve their cybersecurity. The voucher system will cover training for improving digital skills, adapting business models to the digital transformation, digital marketing, cyber resilience and the deployment of complex digital products and services. The plan also includes measures to provide grants to companies for the deployment of digital solutions in their business operations, such as the purchase of digital tools and equipment, for strengthening digital skills to develop and deploy new products, services and processes.

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 the assessment criterion 2.6 in Annex V to the Recovery and Resilience Facility Regulation.

4.7. Lasting impact of the plan

Structural change in administration and institutions

The implementation of the investments and reforms envisaged through the Croatian plan are expected to bring about structural changes in several policies areas and strengthen institutional resilience of the country. The proposed measures through aim at equipping Croatia with the means to more efficiently and effectively support business R&I through a diversified set of policy tools, including an improved R&D tax incentive scheme, and innovation

support programmes, which could have, if properly implemented, a lasting positive impact on both administrative capacity and the economy overall. Measures in general contribute to positive structural/long-term changes to the public administration, improving design, implementation, coordination and management of public policies. Given the significant role of SOEs in the Croatian economy, improving corporate governance in strategic SOEs and the continued reduction in the portfolio of government assets can lead to a distinct rise in overall productivity. Different flanking reform measures will have a lasting impact on administration and building policies, among other, the strengthening of digitalisation for permitting procedures and of the one-stop-shop, the measure supporting the development of skills and capacities for energy and seismic renovations, as well as the improvement of the integrated management and monitoring system for the energy consumption of the public administration buildings.

Structural change in policies

The recovery and resilience plan presented by Croatia has considerable efforts in place, more than half of the financial request, to address structural policies that can bring a lasting impact to industry and services. Tourism sector is one of the main drivers of growth in Croatia and the plan investments aims at increasing the sustainability of tourism by investing in continental tourism and extending the tourist season while also transition to a green tourism sector. Investments in clean energy, modernizing transport system, digital and green transition will increase the sustainability of the economy and crowding-in additional investments over time and help achieve the emission reduction target.

The measures aimed to improve the education, research and innovation system and labour market will also carry a positive effect on potential growth in the long-term. The proposed measures are expected to bring about structural changes in the Croatian R&I ecosystem, in particular regarding the institutional funding of universities and public research organisations, the governance model of universities, the career advancement framework of researchers and the governance of R&I support programmes. Investments in constructing or improving existing early childhood education and care (ECEC) and primary school capacities that will enable increased participation in ECEC and a switch to one-shift schooling shall improve human capital in the long run. The measures related to increasing the capacities of labour market institutions and setting up the administrative and legal framework to fight the undeclared work should have long-term positive effects on how the relevant policy areas and measures are administered. The labour market will also be strengthened by measures aimed at improving suitable skill in tourism, health, green and digital sectors.

Lasting impact

The plan overall addresses many of the core problems of the country like labour market, education, productivity, business environment and competitiveness challenges. Components that aim at improving employment measures and legal framework for modern labour market, improving education outcomes and skills acquired in initial education, reducing skill

mismatches, improving mobility and developing digital skills will have a lasting impact on the overall economy and increase productivity in the long run. Addressing challenges like boosting business environment for SMEs and the governance of SOEs and strengthening the innovation capacity of firms, while fostering the development of sustainable tourism will increase the competitiveness of the Croatian economy. The plan also has an ambitious objective regarding investments in circular economy, green and digital transition that will contribute to a sustainable long-term growth. The combination of energy renovation with seismic renovation will also ensure a lasting impact of the energy-renovation investments, as Croatia is one of the EU countries with the highest seismic risk. The long-term financial impact of the proposed combined renovation is expected to be highly positive since for countries with high seismicity, the payback period of combined renovation investments is estimated to be nearly half of the payback period calculated when seismic and energy renovation are done separately²¹.

The long-lasting impact of the plan can be enhanced through dialogue with stakeholders in the implementation of some measures. Changes of the labour law, establishment of the framework to fight the undeclared work and increasing the minimum wage and adapting the unemployment benefit are measures requiring consultation with social partners and other stakeholders. It is not clear up to what level social partners and other stakeholders will be involved in the effort to reach the milestones and targets. Their involvement in the implementation of these measures could enhance their success. Some measures in the health care system may have a more significant lasting impact if they were to be continued after the end of RRF, such as, the investments in health workforce (C5.1. R3-I1 Central Specialisation Funding and C5.1. R3-I2 Special upgrading of nurses and technicians in emergency medicine).

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

Adequacy of the structure tasked with the implementation of the plan, monitoring of progress and reporting

The Croatian structure tasked with carrying out the implementation of the plan, monitoring of progress and reporting is built around four main bodies that will each have responsibility to execute the management and control system to be established. First, the Recovery and Resilience Facility Central Coordinating Body under the Ministry of Finance, constitutes the lead national body tasked with the overall coordination and monitoring of the recovery and resilience plan, including active monitoring of the progress of the measures, on the

²¹ Pohoryles D.A., Maduta C., Bournas D.A. and Kouris L.A., (2020), Energy performance of existing residential buildings in Europe: a novel approach combining energy with seismic retrofitting, JRC120248.

basis of the milestones and targets set for each component. Second, the responsibility for the implementation of each specific measure is well defined and falls in most cases on the competent Ministry, whose services will support the monitoring of the projects' progress and maintain close cooperation with the RRF Coordination Body and the implementing bodies. Third, all measures in the plan will be monitored by the Implementation Committee, which will ensure consistency and coherence in the use of the EU funds. Fourth, the Agency for the Audit of the European Union Programmes Implementation System (ARPA) will be mandated to carry out audits in the scope of the Croatian recovery and resilience plan. In order to provide general policy orientations, the Steering board, headed by the Prime Minister, oversees the management and implementation of the plan. The IT system, which is currently used for European structural and investment funds will be upgraded to allow for the collection, storage and monitoring of data on the milestones and targets, including at the level of final recipients.

The recovery and resilience plan's components fall, to a large extent, under the competency of a Ministry that will then appoint relevant implementing bodies depending on the scope of the measures included under the specific component. However, monitoring implementation of some broader components containing diverse measures, such as Components 1.1 (Economy), Component 1.4 (Transport) and Component 2.3 (Digital transition), involves multiple Ministries and agencies, with an assigned lead Ministry.

The Croatian plan presents a detailed overview of the monitoring and reporting mechanism foreseen. More specifically, the management and control system includes a dedicated monitoring phase covering the whole lifecycle of the measures. This includes analytical processes that will be established, in order for the implementing bodies to notify the RRF Coordination Body on a periodical basis on the progress made in the achievement of the milestones and targets. The recovery and resilience plan contains a detailed description on the functioning of the information gathering, monitoring and reporting system. The reporting mechanism starts with the collection of the information from the final recipients on the progress in the implementation of the grant agreements. These contracts will require final recipients to report regularly through the e-Funds system on the progress made in implementing investments. The body responsible for the component will enter information on the achievement of the indicator under its responsibility and will aggregate the data at component level. The body in charge of the component shall be responsible for the accuracy and completeness of the indicator output data. Regular checks on the veracity and accuracy of data shall be carried out by the RRF Coordinating Body in cooperation with the National Fund.

Milestones, targets and indicators

The milestones and targets of the Croatian plan constitute an appropriate system to allow the efficient monitoring of its implementation. The recovery and resilience plan defines milestones/targets for each investment and reform included in the plan. The proposed qualitative and quantitative indicators used for the milestones and targets are sufficiently clear, realistic and comprehensive to ensure that their completion can be traced and verified. Furthermore, the milestones and targets are relevant, robust and acceptable, as their scope reflects the overall objective of the measures, which are assessed as reasonable and cost-effective. Where

compliance with the Do No Significant Harm principle cannot be ascertained in advance, the milestones and targets associated with the measure lay out adequate safeguards for compliance.

Overall organisational arrangements

As set out in the recovery and resilience plan, the lead body tasked with the overall coordination, the RRF Central Coordination Body, is an independent special public service under the Minister of Finance. The RRF Central Coordination Body constitutes the lead national body tasked with the overall coordination and monitoring of the plan. It is also assigned as the responsible body that submits twice a year the payment request to the Commission, accompanied by a management declaration of sound financial management and the summary of the Agency for the Audit of European Union Programmes Implementation System (ARPA) audits, including weaknesses identified and any corrective actions taken.

The legal mandate of the RRF Coordinating Body and the mandate of other bodies involved in the implementation and monitoring is defined in the plan. The official decision on the involvement of the above bodies is planned to be adopted at the end of June 2021. The formalisation of the legal mandate of the bodies involved in the implementation and control of the RRF in Croatia is thus pending. Accordingly, a milestone is included in the plan to ensure the mandates are formalised before the first payment request is submitted to the European Commission. The legal act on the institutional framework for EU funds will also include the law for capacity building activities, which shall be further developed through by-laws. The law shall also recognise the need to further strengthen the capacity of final recipients to prepare, apply and implement EU projects.

Whereas the plan presents comprehensive coordination, implementation and monitoring arrangements, the implementation of the plan will crucially hinge on the administrative and implementation capacity of the implementing bodies and will need to be closely monitored. The bodies responsible for the implementation of the investments are reforms are clearly identified and, in the majority of cases, have substantial expertise and knowledge stemming from the implementation of the ESI Funds. Nevertheless, it remains important to assess their capacity needs further, in order to ensure sufficient resources for implementation. In some cases, it is not clear how the public-private partnerships foreseen will interact with the local organizations (e.g., on water management investments under component 1.3). Further, the Croatian Bank for Reconstruction and Development (HBOR) is expected to contribute to the implementation of some important measures (e.g., measures under components 1.1, 1.2 and 1.6) and it will be important to ensure that it has sufficient administrative capacity. Similarly, the technical services of the municipalities, are expected to contribute to the implementation of a number of components (e.g., components 1.2, 1.3, 1.6, and 6.1), and their administrative capacity, in particular for the smaller municipalities, is usually limited. It would be important to underpin the latter, also through the aggregation of offices and competences resulting from successful physical and functional mergers of local units (Reform C2.2 R4). The planning, implementation and monitoring of digital measures will require a strong coordination in terms of policy steering and technical support (through sub-component C2.1) for all digital measures spread across the RRP, and for those financed by other national or EU funds, with a view to

ensure synergy and complementarity and avoid duplication of efforts. To ensure adequate capacities, a workload analyses shall be carried out for the institutions involved in the implementation, also taking into account the burden arising from the Recovery and Resilience Facility. Based on the analysis and recommendations, necessary resources shall be allocated to the institutions involved. Accordingly, a milestone is included in the Council implementing decision to ensure proper execution of the analyses and recommendations.

The arrangements proposed by Croatia in its recovery and resilience plan are expected to be adequate to ensure effective monitoring and implementation of the recovery and resilience plan, including the envisaged timetable, milestones and targets, and the related indicators. This would warrant a rating of A under the assessment criterion 2.8 of Annex V to the RRF Regulation.

4.9. Costing

The recovery and resilience plan generally presents a clear breakdown of costs for each investment and reform where costs occur. References to earlier similar projects or to studies carried out are provided to justify the cost figures. For several demand-driven measures, based on calls for proposal, a milestone or target covering the budgetary execution has generally been included. The cost descriptions vary in the methodology used. The descriptions provide an appropriate level of information, based on which reasonability, plausibility, and additionally with other EU funding sources can be assessed. Furthermore, in combination with the economic and social impact assessment provided in the plan, the cost assessment also allows an evaluation regarding whether the overall costs are commensurate with the economic and social impact expected from the measures as well as their cost efficiency.

Croatia submitted a detailed costing table which provides a breakdown of costs per year and the description of the costs. The budget breakdown contains the estimated cost excluding value added tax, and includes information regarding the duration of the measure, assurances that none of the costs have been incurred before February 2020 as well as information regarding recurrence of the cost. The budget also includes information regarding costs that are covered by other private parties or Union financing, in which case they have been taken out of the project cost to ensure there is no double funding. Furthermore, the table also contains information regarding the methodology used for estimating the cost, the critical cost drivers, unit costs and the total number of units, and the estimation of the total budget per measure. The table also contains references to supporting material, such as relevant studies as well as historical and comparative costs of similar projects that were used to validate the project cost.

Certain elements, notably on comparative costing data, have not always been filled out in the table. There are deficiencies in the costing description for a number of measures such as the description and justification of costs not covering all sub-measures; methodology and calculations provided not always matching the proposed amounts; and some failure to provide supporting documentation, in case reference is made e.g. to studies or past projects. Croatia has not provided an independent validation for any of the cost estimates proposed.

In terms of costing methodology, the recovery and resilience plan presents three different approaches (bottom-up cost calculation, parametric cost calculation and top-down cost

estimation) depending on the maturity of a project and the availability of data. The bottom-up approach estimates the cost of each granular cost driver and then aggregates the cost of the individual units to an estimated total cost of the project. The parametric approach relies on similar projects and historical figures to estimate the project cost; and the top-down cost estimation approach apportions the total cost to individual cost parameters. This approach also heavily relies on historical data but also takes into account expert judgement, especially in cases where there is limited comparable costing information available.

Reasonable costs

To support the cost estimates, Croatia provided a source for its estimates of unit costs (where pertinent) and gave adequate explanations on the methodology used for establishing the cost for a clear majority of measures. The cost estimates include costing tables that break down the overall cost into different items, and allow the identification of the main cost drivers and how the overall cost of the project has been estimated. The underlying calculations and assumptions for the cost estimations can be well understood and are sound for a majority of the measures. Some of the investment projects are expected to create recurrent cost, due to the nature of the investment, but these cases are limited in number and duly justified and well explained. All cost breakdowns only include cost that have been incurred after February 2020 and the value added tax has been excluded from the cost calculations. A recurring issue concerns measures consisting of several sub-measures, where the methodology for allocating costs to each sub-measure is frequently not entirely clear. For a certain number of measures, no calculations for arriving at the total cost are provided, or those calculations do not reconcile to the requested funding or the associated milestones or targets. Depending on the significance of the deficiencies identified, these measures are assessed as having low or medium reasonability.

Plausible costs

Croatia provided sufficient information and evidence that the amount of the estimated total costs of the recovery and resilience plan is in line with the nature and type of the envisaged investments. As part of the costing tables, Croatia has included a justification why the estimated cost are in line with the nature and type of the project, and should be regarded as plausible. These justifications are generally supported by reference projects that are comparable and have been concluded recently either in Croatia or other EU Member States, relevant studies, tender documentation of recently awarded tenders of comparable projects and average market rates. For some projects, that are of very innovative nature or will be supporting specific action for instance via demand driven schemes and therefore cannot be directly compared to other existing projects, scientific sources and input cost have been used to substantiate the plausibility of the cost estimates. A limited number of projects is not sufficiently substantiated with cost of comparable project or the evidence cited could not be accessed. Where estimated project cost exceed the project cost of the reference projects, the excess remains generally within an appropriate range.

No double Union financing

Most of the measures proposed in the recovery and resilience plan are entirely funded from the Recovery and Resilience Facility and in the few exceptions, where other funding sources are used, sufficient information has been provided. In the few cases that also use national or other EU funding sources, the information regarding the amounts and costing items that are not covered under the Recovery and Resilience Facility have been provided as part of the cost breakdown per measure. The costs that are covered by other than Recovery and Resilience Facility funding sources have been taken out of the overall cost that will be supported by the Facility, therefore providing a clear delineation and avoiding double funding. Further details could have been provided on the demarcation between funds, for those measures which are similar to a priority also funded under cohesion policy (e.g. renovation of buildings, waste and water management). However, given the strong governance between EU funds and control systems described in the plan, no risk of double funding has been identified. Further detail is provided on the arrangements under section 4.10.

Commensurate and cost-efficient costs

Due to its significant positive economic and social impact and positive assessment regarding the reasonability and plausibility of the cost, the total cost of the recovery and resilience plan can be assessed as commensurate to the expected social and economic impact of the envisaged measures. As outlined in sections 4.1 and 4.3, the measures foreseen as part of the plan are, when assessed jointly, expected to have a significant economic and social impact, counteracting some of the adverse effects of the economic crisis caused by the coronavirus pandemic as well as fostering structural changes in the economy and society. The cost associated with these measures have been well explained and assessed as reasonable and plausible and therefore are commensurate to the expected social and economic impact. In light of the above, the rating for commensurate and cost-efficient costs is assessed as an A.

The justification provided by Croatia on the amount of the estimated total costs of the recovery and resilience plan is to a medium extent reasonable, plausible, in line with the principle of cost-efficiency and is commensurate to the expected national economic and social impact. Croatia 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 Croatian plan adequately describes the system for the implementation of the recovery and resilience plan in Croatia. The system presents a robust process and structure, where the roles and responsibilities are clearly defined, and the relevant control functions are appropriately segregated. The coordinating body will be the Directorate for Macroeconomic Analysis within the Ministry of Finance. For each component/sub-component, the competent authority at ministry and central government office level has been appointed for the implementation of the

reforms and the investments, in accordance with the sectoral competence provided for in the System of State Administration Act.

The National Fund department within the Ministry of Finance is the body responsible for preparing and sending the payment requests to the European Commission. The tasks of the audit authority are assigned to the Agency for the audit of the EU programme implementation system (ARPA). The independence of the audit body is ensured.

The coordinating body, in cooperation with the National Fund, will carry out checks to confirm that the milestones and targets have been met. The National Fund will carry out checks on the expenditure in order to ensure compliance with all relevant regulations and will prepare the summary of audit findings and recommendations in parallel with the preparation of the Management Declaration, based on the information provided in the management declarations of the ministries and of the audit reports provided by the audit body.

All bodies in charge of implementing the components/sub-components are involved in the implementation of the European Structural and Investment (ESI) Funds 2014-2020 as bodies in the management and control systems or as beneficiaries of the projects. To ensure uniform rules for the use of the Funds, the Croatian authorities have decided that the bodies responsible for the component/sub-component shall use the same procedures as for the ESI Funds, which are to be adapted to the recovery and resilience plan specificities by October 2021, in cooperation with the National Fund. In addition, the Ministry of Finance will develop procedures for the monitoring and the reporting on the fulfilment of key indicators and targets. The adaptation of the ESI Funds procedures to the recovery and resilience facility context is thus pending. Accordingly, a milestone has been proposed to ensure the procedures are formalised before the first payment request is submitted to the European Commission.

Adequacy of control systems and other relevant arrangements

For the management and the monitoring of the recovery and resilience plan, the Croatian authorities will use the eFunds system developed for the management of the ESI Funds for the 2014-2020 programming period. The system will be further upgraded to allow for the collection, storage and monitoring of data on the milestones and targets, including at the level of final recipients. A dedicated milestone has been included to be completed before the submission of the first payment request.

Regarding the prevention, detection and correction of irregularities, the Croatian authorities will rely on the Anti-fraud coordination service (AFCOS) system in place in Croatia. The Ministry of Finance has adopted guidelines on Irregularity Management containing rules for the prevention, detection, handling and reporting of irregularities as well as on the follow-up of the reported irregularities. Within the Ministry of Finance, the Sector for Harmonisation of the Development of the Internal Control System and the Financial and Budgetary Control Sector has been set up at the request of the Coordinating Authority. The Internal Control System Harmonisation Sector performs tasks related to the development of internal control and internal audit systems in the public sector and provides instructions and

trainings in these areas. The proposed measures give assurance that there is an adequate level of control to prevent, detect and correct irregularities identified when using funds provided by RRF.

The Croatian plan states the procedures that are in place to ensure compliance to applicable Union and national law, throughout the implementation of all measures by allowing for controls and audits to be implemented in separate and distinctive levels. In particular, during the first level controls, the implementing bodies will carry out administrative and on-the-spot checks. On top of the above, the coordinating body, in cooperation with the National Fund, will carry out checks to confirm that the milestones and targets have been met. The National Fund will carry out checks in order to ensure that the competent authorities comply with all relevant regulations. Moreover, the Agency for the audit of the EU programme implementation system will carry out the second level audits, these will – based on a half-yearly audit cycle – include system audits and audits on the achievement of the milestones and targets. Finally, the bodies involved in the implementation of the plan are already using the ARACHNE tool for the ESI Funds and will continue to use it also for recovery and resilience plan.

Adequacy of arrangements to avoid double EU funding

The avoidance and detection of double funding will be ensured at all stages of projects' lifecycle. The arrangements put in place are sufficient and adequate in their description. Checks on double funding will be carried out through three main processes: the planning of the funds in the national budget, the award of the grants for the implementation of the projects and the approval of payments per project.

The bodies in charge of implementing the component/sub-component are responsible for the proper planning of the funds in the State budget and the avoidance of double budgeting. When drawing up the State budget, checks on planned amounts and potential double funding are carried out by the State Treasury or the National Fund for all costs financed by EU funds.

The verification of double funding will also be carried out at the grant award stage and at the disbursement of the funds to project final recipients. In both cases, project final recipients submit a declaration on the avoidance of double funding. Implementing agencies will carry out checks based on the available data in the IT systems of the authorities responsible for implementing the ESI Funds, data on the implementation of expenditure from the national budget and by consulting the information available on the allocation of funds from other public sources.

Data on project financing are kept in a number of IT systems under the responsibility of various Ministries, which are also bodies involved in the implementation of the plan. These ministries are the Ministry of Regional Development and EU Funds, the Ministry of Labour, the Pension System, the Family and Social Policy, the Ministry of Interior, the Ministry of Education and Science and the Ministry of Agriculture. In order to ensure the timely availability of data and the verification of double funding, information-sharing agreements will be concluded by September 2021 detailing the systems in which the data on implementation are located, the ownership of the data and the right of access to information of all bodies involved in the

implementation of the plan. The coordinating body will lead the overall process of concluding the agreement. The data collection and consolidation will heavily rely on the planned information-sharing agreements, which should be followed closely, which will be followed up through the milestone on the putting in place of all the procedures to be used by the implementing bodies, which is to be fulfilled before the first payment request is submitted.

Legal empowerment and administrative capacity of control function

The official decision on the involvement of the bodies responsible for the implementation and the control of the recovery and resilience plan in Croatia is planned to be adopted at the end of June 2021. The formalisation of the legal mandate of the bodies involved in the implementation and control of the RRF in Croatia is thus pending. Accordingly, a milestone is included in the plan to ensure the mandates are formalised before the first payment request is made.

For setting up the Coordinating Body, a Sector for Coordinating and monitoring the implementation of the plan is set up in the Directorate for Macroeconomic Analysis, the European Union and International Financial Relations within the Ministry of Finance. It is planned to dispose of 30 posts to carry out the tasks of the Coordinating Body, which will initially be filled by internal transfers of staff within the Ministry of Finance and from other state administration bodies in the course of 2021, while in the meantime the recruitment of additional staff will be launched to reach full capacity. The Croatian authorities consider that the number of 30 additional staff dealing exclusively with the recovery and resilience facility is adequate. They will be able to build on the capacities of the other parts of the Directorate, given that the Directorate's remit is complementary to the tasks of the Coordination Body, in particular in the areas of public finances, relations with the EU and financial institutions. The process of establishing the sector is ongoing and formal establishment is expected by October 2021.

The audit of the plan will be carried out by the Audit Process Support Service within the Agency for the audit of the EU programme implementation system (ARPA). The Statutes of the Agency are currently being amended on the basis of which amendments to the Rules on the organisation and systematisation of posts will be adopted. These amendments will extend the scope of the Audit Process Support Service to include a review of the plan and will increase the number of established posts from three to eight. Based on the information provided in the plan, the Croatian authorities have demonstrated that the Agency for the audit of the EU programme implementation system has modified its organisation ensuring that experienced auditors will handle the recovery and resilience facility audits. The workload analysis, as requested in the dedicated milestone, will reveal whether this number of auditors will be sufficient to cope with the workload of the recovery and resilience facility audits, and if needed, Croatia shall ensure that a sufficient number of additional auditors are allocated to the Agency for the audit of the EU programme implementation system.

Croatia will – for the implementation of the recovery and resilience plan - use the same structures, bodies and procedures as for the ESI Funds. Therefore, the recovery and

resilience facility auditors will be able to build on the audits of the ESI management and control system (in particular the system audits) carried out by the Agency for the audit of the EU programme implementation system services.

The arrangements proposed by Croatia in the recovery and resilience plan to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the Facility, including the arrangements aimed to avoid double funding from the Facility and other Union programmes, are assessed to be adequate. This would warrant a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

4.11. Coherence

Croatia’s recovery and resilience plan is structured around five coherent components and one initiative, which support the common objectives to stimulate the recovery of the Croatian economy and mitigate the impact of COVID-19, to contribute to the twin transition and inclusive growth, and to increase resilience and competitiveness of the Croatian economy. The plan’s components, especially the “Initiative: Renovation of Buildings”, shall also contribute to the reconstruction of the damage caused by two devastating earthquakes, which in 2020 affected central Croatia with consequences in and around Zagreb, and Banovina region.

The plan’s five components and one initiative represent a package of coherent reforms and investments, which are mutually reinforcing or complementary, as they aim to act in synergy, while taking into account Croatia’s development potential and development challenges at regional, national, European and global levels. Reforms and investments are aimed at addressing the economic and social damage caused by the global crisis, boosting Croatia’s recovery, and responding to the objectives set in the European Green Deal and the EU Territorial Agenda 2030, thus providing the basis for the sustainable and innovative development of Croatia, while making society and economy resilient to global crises.

Mutually-reinforcing measures

The “Public Administration, Judiciary and State Property” component aims to improve the efficiency of public administration, the judiciary and the management of state assets, as well as the quality and accessibility of public services to citizens and the effective fight against corruption. The proposed reforms and investments are mutually reinforcing. For example, the reform of local government units from the component aimed at improving the efficiency of public administration, is reinforcing the anti-corruption framework policies in the component on preventing and combating corruption. These reforms and investments will also have a positive impact on reinforcing the component that aims to further strengthen the fiscal framework and fiscal discipline through the amended Budget Act. The investment on construction of passive electronic communications infrastructure in rural areas, reinforces the investment on smart Agriculture platform, aimed to support the digital transformation of agriculture. Both investments are pursuing the objective of digital transition of society and public administration. The investment on developing new IT tools for the tourism public information system (e-tourism) is envisaged to facilitate development of tourism and support the sustainability of the sector. This investment will have a positive impact on uptake of digital

technologies in tourism, thus reinforcing investments aimed at fostering the green and digital transition of tourism.

The “Education, Science and Research” component aims to improve the availability and effectiveness of education, strengthen Croatia’s public science base and promote cooperation with the business sector. The proposed reforms and investments are mutually reinforcing. For instance, reforms of the research and innovation policy and investment framework, under the component on boosting research and innovation, is helping to improve the capacities of the research sector and align them with market needs, thus directly supporting economic development under component on resilient, green and digital economy. The plan also includes a reform of the education system, which aims, among others, to increase access to early childhood education. The reform is accompanied by mutually-reinforcing investments in infrastructure to create new places in early childhood education and care, which will contribute towards eventually enabling universal access to early childhood education.

Complementarity of measures

The “economy” component aims to support the competitiveness, resilience, and sustainable development of the economy, and includes a set of complementary reforms and investments to support the green and digital transition. For example, the investments into recharging and refuelling infrastructure and investments aimed to improve the use of hydrogen and new technologies complement the investments aimed at modernising public urban and suburban regular transport of passengers through the purchase of new vehicles and vessels (hydrogen powered or electrical). Furthermore, modernisation of the tram fleet, procurement of alternative-fuel-powered zero emission vessels and a new urban mobility ecosystem with autonomous electric vehicles, work together towards greening the transport sector. The investments related to better management of natural resources, under the component on improving water and waste management, contribute to reforms and investments related to better use of natural resources and stronger food supply chain. They also complement the measures for a sustainable, innovative and resilient tourism. In the component on improving the use of natural resources and strengthening the supply chain food, the new Act on Agricultural Land Consolidation shall create preconditions for modern farming methods and facilitate the use of digital services in the agricultural sector, thus contributing to objectives of the component on digital transition of society and public administration. Reforms and investments related to agricultural land consolidation shall also contribute to measures on better water management.

The “Public Administration, Judiciary and State Property” component also includes a number of complementary investments to support the digital transition. For instance, it includes a key investment to upgrade the State Cloud (Shared Services Centre). Building on this investment, the plan also includes various measures, such as the upgrade of the Central Information Health System of the Republic of Croatia (CEZIH), which will use the State Cloud to modernize their IT systems.

The “Labour Market and Social Protection” component aims to boost the employment, strengthen the framework for further increasing wages, pensions and cash benefits,

effectively fighting poverty and taking care of the most vulnerable groups of society. The component includes a set of complementary reforms and investments. For example, the active labour market policies will target the long-term unemployed and less employable people from vulnerable groups. This measure will be complemented with the use of skills vouchers in order to provide skills related to the green and digital transitions. In general, all reforms and investments under this component work in synergy in order to increase the employment rate, thereby increasing the competitiveness of the Croatian economy.

The “Healthcare” component includes a set of complementary investments while the overarching objective of the reforms and investments is to improve the efficiency, quality, accessibility, and financial sustainability of the health system. The investments under this component are complementary and they work together in achieving the objectives of the pertaining reforms. For example, six accompanying investments ranging from digitalising the medicine tracking to the development of a medicines shortages monitoring and prevention system in Croatia, support the reform that is expected to ensure the financial sustainability of the health system. Reforms and investments under this component also support and contribute to other components of the plan. The introduction of mobile pharmacies into primary care, also supports and contributes to sustainable and resilient tourism, since it increases the availability of pharmacy services, not just for residents, but also for tourists during high season.

The “Initiative: Renovation of Buildings”, aims to support the comprehensive renovation of buildings, and includes a set of complementary investments and reforms. The investments include energy renovation, post-earthquake renovation combined with energy renovation, energy renovation of buildings with a status of a cultural good, and the development of the seismological data network. They also contribute to the green and digital transition, and work towards smart, sustainable and inclusive growth, together with investment from other components, especially those measures relating to energy transition and decarbonisation of the energy sector. Developing a framework to ensure adequate skills in the context of post-earthquake reconstruction also contributes to measures related to the labour market and active employment policy for the needs of the green transition. Setting up of on-line and physical one-stop shops, to reduce the administrative burden and combine the energy and post-earthquake renovation, contributes to increasing the efficiency of public administration. 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 the Croatian recovery and resilience plan, their individual weight (importance, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a high extent, represent coherent actions. This would warrant a rating of A under the assessment criterion 2.11 of Annex V to the RRF Regulation.

ANNEX: CLIMATE AND DIGITAL TRACKING TABLE²²

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
C1.1.1. R1-I1	Digitalisation of government and public administration services by business sector (G2B)	4.6	011	0%	011	100%
C1.1.1. R1-I2.b	Continued administrative and fiscal burden relief, and a better regulatory environment	1.1	011	0%	011	100%
C1.1.1. R4-I1.a	Supporting businesses for the transition to an energy and resource-efficient economy - SMEs	99.5	047	40%		0%
C1.1.1. R4-I1.b	Supporting businesses for the transition to an energy and resource-efficient economy – large companies	152.6	047bis	40%		0%
C1.1.1. R4-I2.a	Financial instruments for micro, small and medium-sized enterprises – green part	27.9	047	40%		0%
C1.1.1. R4-I2.c	Financial instruments for micro, small and medium-sized enterprises – digital part	23.2	010	0%	010	100%
C1.1.1. R4-I3.a	Mid-cap financial instruments businesses and large entities – green part	26.5	047bis	40%		0%
C1.1.1. R4-I4.a	Financial instruments for public sector entities – green part	8.0	047bis	40%		0%
C1.1.1. R6-I1	Transforming and strengthening the competitiveness of cultural and creative industries	33.2	021	0%	021bis	100%
C1.1.1. R6-I2	Establishing media fact-check and public disclosure system	6.6	021	0%	021bis	100%
C1.1.2. R3-I1	Preparation of strategic documents for the digital transformation of the economy and artificial intelligence	0.4	021	0%	021ter	100%
C1.1.2. R3-I2	Digital vouchers	10.0	010	0%	010	100%
C1.1.2. R3-I3	Grant support for digitalisation	27.3	010	0%	010	100%
C1.1.2. R4-I1	Support for Digital Innovation Hubs	7.5	010	0%	010	100%
C1.2. R1-I1	Revitalisation, construction and digitalisation of the energy system and supporting infrastructure to decarbonise the energy sector	387.8	033	100%	033	40%

²² While the total cost of Croatia's recovery and resilience plan exceeds the total allocation of non-repayable financial support to Croatia, Croatia will ensure that all spending related to the measures mentioned in this table as contributing to climate objectives are fully financed by the funds from the Recovery and Resilience Facility.

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
C1.2. R1-I2.a	Fostering energy efficiency, heat and renewable energy to decarbonise the energy sector – SMEs part	30.0	034bis	100%		0%
C1.2. R1-I2.b	Fostering energy efficiency, heat and renewable energy to decarbonise the energy sector - industry	30.9	024bis	40%		0%
C1.2. R1-I2.c	Fostering energy efficiency, heat and renewable energy to decarbonise the energy sector – geothermal renewable energy	30	032	100%		0%
C1.2. R1-I3.a	Use of hydrogen and new technologies - recharging points	20.2	077	100%		0%
C1.2. R1-I3.b	Use of hydrogen and new technologies – hydrogen production and electrolyzers	9.1	032	100%		0%
C1.2. R1-I3.c	Use of hydrogen and new technologies - Solar	3.1	029	100%		
C1.2. R1-I3.d	Use of hydrogen and new technologies - carbon capture and storage	12.7	022	100%		
C1.2. R1-I4.a	Biorefineries for the production of advanced biofuels Sisak - biofuels	99.5	030bis	100%		0%
C1.2. R1-I4.b	Biorefineries for the production of advanced biofuels Sisak - carbon capture and storage	33.2	022	100%		0%
C1.3. R1-I1.b	Programme for the development of public sewerage – water supply	60.2	039bis	40%		0%
C1.3. R1-I2.a	Programme for the development of public water supply	129.6	039bis	40%		0%
C1.3. R1-I2.b	Programme for the development of public water supply – digital part	8.3	040	40%	011	100%
C1.3. R1-I3.a	Disaster risk reduction programme in the water management sector – risk reduction	124.6	035	100%		0%
C1.3. R1-I3.b	Disaster risk reduction programme in the water management sector – green infrastructure	33.1	050	40%		0%
C1.3. R2-I1	Disposal reduction programme	146.0	042	40%		0%
C1.4. R1-I1	Electronic tolling system	65.6	063	0%	063	100%
C1.4. R1-I2	Improving the system of exercising the rights of persons with disabilities in the field of mobility	2.0	011	0%	011	100%
C1.4. R1-I3	National road transport electronic storage and data exchange system (NSCP)	7.7	063	0%	063	100%
C1.4. R1-I4	Reporting control system for road passenger and freight transport	1.9	063	0%	063	100%
C1.4. R1-I5	Monitoring of Transport of Dangerous Goods by Road (e-ADR)	2.5	063	0%	063	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
C1.4. R2-I1	Reconstruction of existing and construction of second track of railway section Dugo Selo - Novska, sub-section Kutina - Novska (phase D)	140.7	064	100%		0%
C1.4. R2-I2	Modernisation of the line M604 Oštarije – Knin – Split	39.8	068	100%		0%
C1.4. R2-I3.a	Removing “bottlenecks” on railway infrastructure – TEN-T	18.8	068	100%		0%
C1.4. R2-I3.b	Removing “bottlenecks” on railway infrastructure - general	1.1	069	40%		0%
C1.4. R2-I4	Modernisation of Zagreb Kustošija - Zagreb Zapadni Kolodvor - Zagreb Glavni Kolodvor	29.2	067	100%		0%
C1.4. R2-I6	Use of green technologies in rail passenger transport	13.3	072bis	100%		0%
C1.4. R2-I7	Upgrading of the IT and sales system and modernization of trains with the IT system	6.4	070	40%	070	100%
C1.4. R3-I1	Modernisation programme for ports open to public traffic	11.3	081bis	40%		0%
C1.4. R3-I2	Procurement/construction of passenger ships used for regular coastal transport	40.8	074	100%		0%
C1.4. R3-I3	Construction of new cable ferry ‘Križnica’, Municipality of Pitomača	0.8	073	100%		0%
C1.4. R3-I4	Equipping ports and harbours with waste management infrastructure	1.5	044	40%		0%
C1.4. R4-I1	Procurement of alternative-fuel-powered vehicles for public urban and suburban regular transport	39.8	074	100%		0%
C1.4. R4-I2	Modernisation of tram fleet	59.7	074	100%		0%
C1.4. R5-I1.b	Alternative fuels infrastructure at Zadar airport	5.3	077	100%		0%
C1.4. R5-I1.c.	Capacity building for solar energy at Zadar airport	0.5	029	100%		0%
C1.4. R5-I2.a	Research, development and production of new mobility vehicles and supporting infrastructure - infrastructure	11.4	073	100%	063	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
C1.4. R5-I2.b	Research, development and production of new mobility vehicles and supporting infrastructure - vehicles	185.7	N/A ²³	100%	063	100%
C1.4. R5-I3.a	Co-financing programme for the purchase of new alternative fuel vehicles and the development of alternative fuel infrastructure in road transport - vehicles	21.2	N/A ²⁴	100%		0%
C1.4. R5-I3.b	Co-financing programme for the purchase of new alternative fuel vehicles and the development of alternative fuel infrastructure in road transport - infrastructure	15.6	077	100%		0%
C1.5. R1-I1.b	Construction and equipping of logistic distribution centres for fruit and vegetables - Construction of the energy efficient logistics distribution centres	37.3	025ter	40%		0%
C1.5. R1-I1.c	Construction and equipping of logistic distribution centres for fruit and vegetables - Investments into renewable energy sources (solar)	1.6	029	100%		0%
C1.5. R1-I1.d	Construction and equipping of logistic distribution centres for fruit and vegetables - Equipping of the logistic distribution centres	38.1	044	40%		0%
C1.5. R2-I2	Agricultural Land Monitoring Programme	1.7	011	0%	011	100%
C1.5. R3-I1	Deployment of digital public services	1.9	011	0%	011	100%
C1.5. R3-I2	Smart Agriculture	6.6	011	0%	011	100%
C1.5. R3-I3	Traceability System	1.7	011	0%	011	100%
C1.5 R4	Improving food donation systems	0.3	011	0%	011	100%
C1.6. R1-I1.a	Regional diversification and specialisation of Croatian tourism through investments in the development of high added value	49.4	050	40%		0%

²³ The “Methodology for climate tracking” annexed to the Recovery and Resilience Facility Regulation (2021/241) does not set out intervention fields that would allow for climate or environmental tracking of electric vehicles or plug-in hybrid vehicles, except for vehicles for urban transport falling under intervention field 074. According to Article 18 (4)(e) of the Regulation, the methodology should however ‘be used accordingly for measures that cannot be directly assigned to an intervention field listed in Annex VI’. In this context, the Commission has applied a 100% climate contribution coefficient for zero-emission vehicles of all categories (this includes battery electric and fuel cell/hydrogen-powered vehicles).

²⁴ Ibid.

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
	tourism products - general					
C1.6. R1-I1.b	Regional diversification and specialisation of Croatian tourism through investments in the development of high added value tourism products – energy efficiency	74.1	026	40%		0%
C1.6. R1-I2.a	Strengthening the competitiveness of entrepreneurs and fostering the green and digital transition of the tourism sector – large enterprises	83.0	047bis	40%		0%
C1.6. R1-I2.b	Strengthening the competitiveness of entrepreneurs and fostering the green and digital transition of the tourism sector - SMEs	74.7	047	40%		0%
C1.6. R1-I2.c.	Strengthening the competitiveness of entrepreneurs and fostering the green and digital transition of the tourism sector – digital part	8.3	100	0%	100	40%
C2.1. R1-I1	Optimisation, Standardisation and Digitalisation of processes for strategic management and impact assessment of public policies	1.2	011	0%	011	100%
C2.2. R1-I2.a	e-National Professional exam - infrastructure	0.1	055	0%	055	100%
C2.2. R1-I2.b	e-National Professional exam – support services	0.6	011	0%	011	100%
C2.2. R2-I1.b	Improving pay systems in state administration and public services, HRM and COP systems – digital part	3.5	011	0%	011	100%
C2.2. R2-I2.a	Introduction of a model for hybrid access to the workplace – smartworking – non-digital part	1.1	011	0%	011	100%
C2.2. R2-I2.c.	Introduction of a model for hybrid access to the workplace – smartworking – digital infrastructures	8.2	055	0%	055	100%
C2.2. R3-I1	Deployment of digital infrastructure and public administration services through the development of a conservation base system	10.8	011	0%	011	100%
C2.2. R3-I2.a	Improve the digital infrastructure and public sector services by developing the national archives information system and strengthening the national archives network - digitalisation	5.3	011	0%	011	100%
C2.2. R4-I1.b	Further optimisation and decentralisation of JLP(R)S through support for functional	0.9	011	0%	011	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
	blending – digital part					
C2.3. R1	Digital Croatia strategy and strengthening inter-institutional cooperation and coordination for a successful digital transition of society and economy	0.1	011	0%	011	100%
C2.3. R2-I1	Establishment of a central interoperability system	14.0	011	0%	011	100%
C2.3. R2-I2	Establishing a central data light repository and business analytics system	16.6	055	0%	055	100%
C2.3. R3-I1	Upgrading the Shared Services Centre	34.5	055	0%	055	100%
C2.3. R3-I2	Strengthening the capacity of the police to tackle cybercrime	1.8	021	0%	021qui nquies	100%
C2.3. R3-I3	Establishing a one-stop shop for all e-public helpdesk services	4.1	055	0%	055	100%
C2.3. R3-I4	Consolidation of CEZIH health information infrastructure systems	13.3	095	0%	095	100%
C2.3. R3-I5	Digital Identity Card Deployment Project	0.9	011	0%	011ter	100%
C2.3. R3-I6	Investments in state information infrastructure networks	31.4	053	0%	053	100%
C2.3. R3-I7	Improvement of spatial planning systems, construction and state assets through digitalisation	23.9	011	0%	011	100%
C2.3. R3-I8	Creation of a digital mobile platform	4.3	011	0%	011	100%
C2.3. R3-I9	Establishing a new platform for the Electronic Public Procurement Bulletin of the Republic of Croatia	1.5	011	0%	011	100%
C2.3. R3-I10	Digitalisation and computerisation of the CES (eHZZ)	7.6	011	0%	011	100%
C2.3. R3-I11	ICT support modernisation (eHZMO)	17.1	011	0%	011	100%
C2.3. R3-I12	Digitalisation of the HZMO archives (eArhiva)	6.2	011	0%	011	100%
C2.3. R3-I13	Digital transformation of the Tax Administration	56.6	011	0%	011	100%
C2.3. R3-I14	Implementation of the non-cash payment system in the economy through eInvoices with integrated e-archives and active tax accounting	14.2	011	0%	011	100%
C2.3. R3-I15	Putting in place tourism applicative solutions with the aim of administratively relieving entrepreneurs and transforming the tourism model towards sustainability	5.3	011	0%	011	100%
C2.3. R3-I16	Digitalisation of processes in sport and	1.5	011	0%	011	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
	recreation at local and regional level					
C2.3. R4	Enhancing connectivity as a cornerstone of the digital transition of society and economy	0.4	053	0%	053	100%
C2.3. R4-I1	Implementation of projects under the National Framework Programme for the Development of Broadband Infrastructure in areas where there is no sufficient commercial interest in investment	106.2	053	0%	053	100%
C2.3. R4-I2	Construction of passive electronic communications infrastructure	19.6	051	0%	051	100%
C2.4. R5	Optimisation of State-owned property management	0.3	011	0%	011	100%
C2.5. R1-I1	Enhancing the Court Case Management System (efile)	2.9	011	0%	011	100%
C2.5. R1-I2	Improvement of land register information system and cadastre	3.1	011	0%	011	100%
C2.5. R1-I3	Development of a tool for the publication and search of court decisions	0.2	011	0%	011	100%
C2.5. R1-I4	Project and implementation of the Zagreb Justice Square project to improve access to justice and efficiency of commercial procedures and administrative disputes	67.9	025ter	40%		0%
C2.5. R1-I5	Implementation of energy efficiency measures to renovate obsolete judicial authorities	10.5	026bis	100%		0%
C2.5. R1-I6	A stable and resilient IT infrastructure for the Justice Information System	16.0	011	0%	011quater	100%
C2.6. R1-I2	Digitalisation of the Ethics System of Civil Servants	0.3	011	0%	011	100%
C2.6. R1-I3	Advancing the existing asset declarations system of state officials	0.1	011	0%	011	100%
C.2.6. R1-I4.a	Supporting efficiency in the fight against corruption and organised crime – digital investments	1.3	011	0%	011	100%
C.2.6. R1-I4.b	Supporting efficiency in the fight against corruption and organised crime – renovation of buildings	2.7	026	40%		0%
C3.1. R2-I1	Digital transformation of higher education	84.0	012	0%	012	100%
C3.2. R1-I1.b	Development of a system of programming agreements to finance universities and research institutes focused on innovation, research and development – digital part	5.9	009	0%	009bis	100%
C3.2. R1-I2.a	Strengthening institutional capacity of	4.4	021	0%	021quater	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
	universities and research institutes for innovation – digital investments				er	
C3.2. R2-I1.a	Developing an enabling model for researchers' career progression and conducting cutting-edge scientific research in STEM and ICT fields – granting of scholarships	12.1	108	0%	108	100%
C3.2. R2-I1.d	Developing an enabling model for researchers' career progression and conducting cutting-edge scientific research in STEM and ICT fields – Research support digital	3.1	009	0%	009bis	100%
C3.2. R2-I1.e	Developing an enabling model for researchers' career progression and conducting cutting-edge scientific research in STEM and ICT fields – support for start-ups	7.4	016	0%	016	40%
C3.2. R2-I2.a	Investing in research – technology infrastructure in STEM and ICT fields – digital equipment	15.0	055	0%	055	100%
C3.2. R2-I2.b	Investing in research – technology infrastructure in STEM and ICT fields – digital research	15.0	021	0%	021quarter	100%
C3.2. R3-I1.d	Introducing a more functional R & D & I project funding programming framework – spin-offs in digital field	19.2	018	0%	018	40%
C3.2. R3-I1.e	Introducing a more functional R & D & I project funding programming framework – digital research cooperation	19.2	021	0%	021	40%
C4.1. R1a	Develop and implement new targeted active employment policy measures for the green and digital transitions of the labour market – green jobs	102.2	01	100%		0%
C4.1. R1b	Develop and implement new targeted active employment policy measures for the green and digital transitions of the labour market – digital jobs	43.8	108	0%	108	100%
C4.1. R3a	Setting up a voucher system for the education of employed and unemployed people – green jobs	0.0	01	100%		0%
C4.1. R3b	Setting up a voucher system for the education of employed and unemployed people – digital jobs	0.0	108	0%	108	100%
C4.1. R3-I1.a	Implementation of vouchers for the	27.9	01	100%		0%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
	education of employed and unemployed persons – green jobs					
C4.1. R3-I1.b	Implementation of vouchers for the education of employed and unemployed persons – digital jobs	11.9	108	0%	108	100%
C4.3. R1-I1	Enhancing the digitalisation of social benefit systems between national and local levels	0.1	011	0%	011	100%
C4.3. R1-I2	Development of a web application on the possibility to receive social benefits at national level	0.4	011	0%	011	100%
C4.3. R3-I2	Enhancing the digitalisation of welfare systems and connecting welfare centres and social service providers	0.5	011	0%	011	100%
C4.3. R3-I3	Enhancing the digitalisation of welfare systems and implementing systems for the methodology for calculating prices for social services	0.7	011	0%	011	100%
C4.3. R3-I4.b	Construction and equipping of centres for the elderly (accommodation and services) – energy renovation	9.8	026bis	100%		0%
C5.1. R1-I4	Digital image diagnostics KBC Split	2.7	095	0%	095	100%
C5.1. R1-I6	Digital image diagnostics KB Dubrava	5.3	095	0%	095	100%
C5.1. R2-I2	Purchase and implementation of equipment for the establishment of the National Oncological Network and National Oncological Database	10.6	095	0%	095	100%
C5.1. R4-I3	Digitising the pathway through health institutions at secondary and tertiary levels of healthcare	2.5	013	0%	013	100%
C5.1. R4-I4	Developing a system for monitoring and preventing shortages of medicinal products in Croatia	1.4	013	0%	013	100%
C5.1. R4-I5	Introduction of a treatment outcome monitoring system for non-hospital patients with a focus on chronic patients in public pharmacies	0.6	013	0%	013	100%
C5.1. R5-I1	Digital integration of operating halls and robotic surgery in KBC Split	8.0	095	0%	095	100%
C5.1. R5-I2	TELECORDIS	0.6	095	0%	095	100%
C5.1. R5-I3	Teletransfusion	1.6	095	0%	095	100%
C5.1. R5-I4	Digitalisation and integration of operating rooms equipped with robotic surgery in KBC Sestre milosrdnica	7.6	095	0%	095	100%

Measure/ Sub-measure ID	Measure/Sub-measure name	Climate			Digital	
		Budget (EUR mn)	Interv. field	Coeff. %	Interv. field	Coeff. %
C5.1. R5-I5	Digitalisation and equipping of KB Merkur diagnostic units	3.2	095	0%	095	100%
C6.1 R1-I1.a	Energy renovation of buildings – public buildings	85.2	026bis	100%		0%
C6.1 R1-I1.c.	Energy renovation of buildings – multi-dwelling buildings	36.5	025bis	100%		0%
C6.1 R1-I2.a	Renovation of buildings damaged in earthquakes with energy renovation – public buildings	354.8	026bis	100%		0%
C6.1 R1-I2.b	Renovation of buildings damaged in earthquakes with energy renovation – multi-dwelling buildings	59.1	025bis	100%		0%
C6.1 R1-I3	Energy renovation of buildings with a status of a cultural good	39.8	026bis	100%		0%
C6.1 R2	Developing a framework for ensuring adequate skills in the context of green jobs needed for post-earthquake reconstruction	5.3	01	100%		0%
C6.1 R3a – digital part	Efficiency gains, reduction of administrative burden and digitalisation of the renovation process	2.0	011bis	40%	011bis	100%
C6.1 R4	Modernisation and integration of seismic data for the renovation process and planning of future construction and monitoring of public infrastructure	0.7	055	0%	055	100%
C6.1 R4-I1a	Seismological data network development – digital part	8.7	055	0%	055	100%
C6.1 R6	Pilot project for the establishment and implementation of systematic energy management and the development of a new financing model	1.6	011bis	40%	011bis	100%