Europaudvalget 2021
KOM (2021) 0321 - SWD-dokument
Offentligt

EUROPEAN
COMMISSION

Brussels, 16.6.2021
SWD(2021) 146 final

COMMISSION STAFF WORKING DOCUMENT

Analysis of the recovery and resilience plan of Portugal

Accompanying the document

Proposal for a Council Implementing Decision

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

{COM(2021) 321 final}

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1. EXECUTIVE SUMMARY

Following several years of above-average growth and an improving labour market, the COVID-19 pandemic hit Portugal's economy hard. It took a toll on all aspects of social and business activity, especially on the country's large hospitality sector. Real GDP, which was growing faster than EU average before the crisis, fell by 7.6% in 2020. After a resurgence of infections brought new lockdown restrictions early in 2021, real GDP is set to recover from the second quarter onwards. Substantial government support has shielded the labour market throughout the crisis, limiting the increase in the unemployment rate, which nevertheless went up 0.4 percentage points year on year to 6.9% in 2020. Youth employment, in particular, remains an issue, with more than a fifth of people aged 15-24 unemployed in 2020 and, overall, there is a risk of increasing job destruction. The fiscal policy response to the COVID-19 pandemic provided significant stabilisation to the economy but resulted in a worsened budgetary outlook. The general government debt-to-GDP ratio, which had been on a steady downward path since its 2016 peak of 131.5%, spiked to an all-time high of 133.6% in 2020.

Portugal has requested EUR 13 907 294 284 in non-repayable support and EUR 2 699 000 000 of loans under the Recovery and Resilience Facility[1]. Portugal's long-term challenges relate mainly to social and educational needs, institutional resilience, including the efficiency of the justice system, and the need to boost the productive potential of the economy by investing in skills, research and development, as well as by improving the business environment and enhancing framework conditions for the sustainability of public finances. Its recovery and resilience plan should make a significant contribution to boosting the country's economic rebound and contribute to a green, digital, inclusive and resilient future**.** Structured around the three elements of resilience, green and digital transitions, the plan is designed to give a focused response to Portugal's key structural challenges, in line with the Draft Council Recommendation on economic policy in the euro area[2] and a significant subset of the recent country-specific recommendations addressed to Portugal by the Council.[3]

The plan pursues the general objective of the Facility to promote the Union's economic, social and territorial cohesion and is balanced in its response to the six policy pillars referred to in Article 3 of the Regulation.[4] About three quarters of the 20 components in the Portuguese plan are directly related to the green transition and roughly half directly address the digital transition (pillars 1 and 2). The remaining four policy pillars are appropriately addressed

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1 Portugal has published its Recovery and Resilience Plan at https://www.portugal.gov.pt/pt/gc22/comunicacao/documento?i=recuperar-portugal-construindo-o-futuro-plano-de-recuperacao-e-resiliencia

2 Pending final adoption by the Council, after endorsement by the European Council. The text agreed by the Eurogroup on 16 December 2020 is available at: https://data.consilium.europa.eu/doc/document/ST-14356-2020-INIT/en/pdf

3 Portugal submitted its National Reform Programme on 30 April 2021. The information provided in the National Reform Programme is being considered and jointly assessed in this Staff Working Document, together with the recovery and resilience plan.

4 Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility.

through measures to: (i) strengthen the capacity, resilience and sustainability of the National Health Service; (ii) provide social housing and affordable housing; (iii) offer integrated social services, especially in deprived metropolitan areas; (iv) strengthen education and vocational education and training systems; (v) ensure the digitalisation of primary and secondary education; (vi) implement measures to incentivise innovation and support entrepreneurship; (vii) implement measures to digitalise public services, make public administration more efficient and improve the quality and sustainability of public finances; and, (viii) implement measures to improve the business environment, including the modernisation of administrative and tax courts and the streamlining of legal procedures.

The plan is expected to contribute to addressing a significant subset of the recent country-specific recommendations addressed to Portugal by the Council.[5] The plan promotes investment for the climate and green transition. Improving the quality of public finances and the financial sustainability of state-owned enterprises is central to the plan because it is a necessary condition to strengthen Portugal's economic resilience. The plan is ambitious in strengthening the resilience of the health system and improving access to quality health care and long-term care. The plan aims to improve the population's overall level of skills including digital skills and reinforces the link between regional and sectoral skills needs and vocational education and the training offer. The plan provides a significant response to improve the effectiveness and adequacy of social protection. The plan introduces relevant measures to reduce labour market segmentation, support quality employment and the preservation of jobs. The plan significantly aims to support the use of digital technologies and promote digital skills for various population groups such as students, teachers, the workforce, businesses and civil servants. The plan introduces significant measures to promote access to finance, in particular for SMEs, and promote private and public investment for the country's economic recovery. The plan introduces significant reforms and investments to promote investment in research and innovation and make these more efficient and effective. The plan is ambitious in tackling the challenges of the business environment and improving the efficiency of the justice system.

The measures in the plan contribute to the green transition, the enhancement of biodiversity and the protection of the environment. They can support Portugal's decarbonisation and energy objectives as set out in the National Energy and Climate Plan 2030 (NECP 2030) and in its Roadmap for Carbon Neutrality 2050 (RNC 2050), and are thus a step towards achieving carbon neutrality by 2050. The green transition is presented as an opportunity to leverage the Portuguese economy towards sustainability, by promoting technological advancement, job creation and preservation of natural resources. This entails measures to decarbonise industry, reduce energy dependency, promote sustainable mobility and increase energy efficiency of buildings, deploy new technologies for renewable hydrogen and other

[5] Council Recommendation of 20 July 2020 on the 2020 National Reform Programme of Portugal and delivering a Council opinion on the 2020 Stability Programme of Portugal OJ C 282/22, 26 August 2020, and Council Recommendation of 9 July 2019 on the 2019 National Reform Programme of Portugal and delivering a Council opinion on the 2019 Stability Programme of Portugal OJ C 301/22, 5 September 2019.

renewable energy sources, and spending on research and innovation. Together, the measures supporting climate change objectives account for 37.9% of the Portuguese plan's total allocation.

All measures in the Portuguese plan pass the ex-ante assessment of the 'do no significant harm' principle. For those measures in the water management component (Component 9), which are sensitive from a climate adaptation and environmental point of view, Portugal ensures that no significant harm to the environment shall be done by implementing any result and condition from the Environmental Impact Assessments (EIA) relevant for these measures.

In terms of the digital transition, key measures address the digitalisation of businesses and education, including the purchase of digital equipment and professional training. They also include decisive upgrades to the information systems for public financial management and for the provision of health care services, as well as the modernisation of the public administration to improve accessibility and simplify public interactions with businesses and citizens. The measures under the field of digital transformation could lead to a significant reduction of the complexity in processes and procedures, which could make the public administration as a whole more efficient in the long term. The measures with a digital impact account for 22.1% of the Portuguese plan's total allocation.

Once fully implemented, Portugal's plan can be expected to prompt structural changes with a lasting impact to the administration, the institutions and several policies of the country. The most relevant measures in this respect relate to creating a more business-friendly environment, notably through changes in the justice system. They also comprise the establishment and capital reinforcement of the National Promotional Bank, *Banco Português de Fomento* to facilitate access to finance as well as improve financing conditions for viable companies, and to address the structural problem of undercapitalisation of Portuguese firms. Further structural improvements are expected to stem from measures to reduce the administrative burden on businesses, the elimination of barriers to investment linked to burdensome licensing requirements, and the lifting of restrictions on regulated professions. In addition, structural transformation related to the green and digital transitions are widespread throughout the plan. The plan's approach to gender equality and, to a lesser extent, equal opportunities, can also make an impact by going beyond the response to the immediate consequences of the COVID-19 pandemic and addressing the structural factors leading to inequalities.

Portugal has established a dedicated administrative structure '*Estrutura de Missão Recuperar Portugal*' ('task force') with an adequate organisation and the responsibility to implement the plan as well as monitor and report on progress. The milestones and targets of the Portuguese plan constitute an appropriate system for monitoring the plan's implementation.

Portugal has provided individual cost estimates for all investments and reforms with associated costs included in the plan. The cost breakdown is generally detailed and well substantiated. Cost estimates, supporting documents and cost justifications show that most of the costs are reasonable, plausible, commensurate, and in line with the principle of cost-efficiency. However, some gaps remain which preclude the highest rating of this assessment criterion. The individual components do not, as a rule, provide clear information about additional and complementary investments from other EU funds, as the negotiation of the Partnership Agreement and the Programmes for the programming period 2021-2027 has not yet begun. However, this is compensated by strong governance and control systems, which provide assurance that the amount of the total cost is not covered by existing or planned Union financing.

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

2. RECOVERY AND RESILIENCE CHALLENGES: SCENE-SETTER

2.1. Macroeconomic outlook and developments since the 2020 country report

Portugal's economic performance reversed abruptly in 2020, as the spread of the COVID-19 pandemic hit the country. Portugal's GDP fell by 7.6% in 2020, mostly on the back of a significant contraction in the second quarter of the year. This was followed by a partial and short-lived recovery in the second half of 2020, as the resurgence of COVID-19 infections towards the end of the year brought a gradual increase in social distancing measures. In turn, further tightened restrictions as of mid-January 2021 weakened economic activity in the first quarter of the current year. According to the Commission 2021 spring forecast, the economy is now projected to resume its recovery in the second quarter of 2021 and to gain momentum this summer, when international travel is expected to rebound. In full-year terms, GDP is projected to grow by 3.9% in 2021 and 5.1% in 2022. A full return to pre-pandemic levels is expected by mid-2022.

The country's large hospitality industry, particularly activities related to foreign tourism, faced the largest volatility as the number of airport passengers fell by more than 90% in Q2-2020 (y-o-y). Among the main economic sectors, only construction retained positive growth rates in 2020. On the demand side, export of services and investment in equipment recorded the largest drops, but private consumption also fell significantly amid a steep rise in savings. Consumer prices (HICP) dropped marginally by 0.1% in 2020, mainly due to constrained demand for energy and services. Prices are set to gradually increase in 2021 and 2022.

Headline labour indicators remained quite resilient against the backdrop of the unfavourable economic environment, benefiting from substantial government support. Unemployment increased from an annual average of 6.5% in 2019 to 6.9% in 2020. The labour force and the number of employed persons decreased by 1.4% and 1.7%, respectively, in 2020. However, labour market utilisation fell at a much steeper pace, reflecting a drop of 23.6% y-o-y in hours worked during the strict lockdown in Q2-2020. Moreover, the number of registered unemployed increased significantly during the lockdown, implying certain statistical discrepancies due to the complexity of the situation, where many persons were forced into temporarily paid or unpaid leaves.

The economic downturn in 2020 also weighed on Portugal's social situation, although the welfare state and government measures played an important role in stabilising incomes. Prior to the crisis, the country's poverty and inequality indicators were improving, though against the background of a weak social protection system and rising house prices. The proportion of people at risk of poverty and social exclusion stood at 21.6% in 2019, according to the latest available estimates. The steep contraction in the hospitality sector in 2020, where income levels are below the average, is expected to have had a negative impact on the country's poverty and inequality indicators, despite the resilience of the labour market and social transfers from the government. The pre-existing tax-benefit system and government measures to address the exceptional socio-economic situation have cushioned part of the shock on households' income, limiting the rise in income inequality and poverty risk. Monetary compensation schemes absorbed the largest share of the market income shock.[6]

Fiscal policy was used to sustain the economy during the COVID-19 crisis, which has put a strain on public finances. The general government balance was hit, turning from a small surplus of 0.1% of GDP in 2019 to a deficit of 5.7% of GDP in 2020. The package of crisis mitigation measures, with an estimated overall direct budgetary cost of about 3% of GDP, was the main driver of this deterioration. Spending increased across the board, with transfers and subsidies to firms and households – including through short-time work and furlough schemes – contributing the most. The decline in tax revenue by about 1¾% of GDP also pushed the deficit upwards, reflecting the operation of automatic stabilisers on the back of the sharp drop in output. Whilst Portugal's public debt was on a declining path prior to the COVID-19 crisis, the debt-to-GDP ratio reached an all-time high in 2020, soaring by about 17 percentage points to 133.6%. With the expected economic rebound, the public debt-to-GDP ratio is set to resume a downward path already in 2021, but it will take years for it to reach its pre-pandemic level. Furthermore, the projected gradual decrease in the public debt-to-GDP ratio would crucially hinge on Portugal attaining structural primary surpluses and favourable nominal GDP growth-interest rate differentials over the medium term.

In the short term, Portugal is projected to face high fiscal sustainability risks according to the S0 indicator.[7] This reflects the abrupt and considerable deterioration of public finances in 2020, against the background of the COVID-19 outbreak and the direct budgetary cost of the crisis mitigation measures. At the same time, financial market data show historically low and stable spreads of credit defaults swaps and credit ratings. Moreover, historically low borrowing costs, supported by the Eurosystem's interventions and EU initiatives, have contributed to mitigate short-term risks. In addition, Portugal's treasury reported an accumulation of currency and deposits by 4.7% of GDP in 2020, while gross financing needs are projected to decline over the forecast horizon.

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6 See 'Households´ income and the cushioning effect of fiscal policy measures during the Great Lockdown', https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121598.pdf. More updated results are forthcoming in a JRC Working Paper.

7 The S0 indicator evaluates fiscal sustainability risks in the short term – that is, in the upcoming year – stemming from the fiscal, macro-financial or competitiveness sides of the economy.

In the medium term, Portugal is deemed to face high fiscal sustainability risks according to an overall conclusion based on the S1 indicator[8] and the Commission's debt sustainability analysis (DSA).[9] While the S1 indicator indicates medium fiscal sustainability risks in the medium term, the Commission's DSA for Portugal points to high sustainability risks based on its baseline scenario and plausible alternative scenarios, which project public debt-to-GDP ratios above 90% by 2031, and justify the overall conclusion of high fiscal sustainability risks in the medium term. According to the Commission's baseline scenario based on the 2021 spring forecast, the public debt-to-GDP ratio is expected to steadily decline at a gradual pace of about 2.5 percentage points per year on average to a relatively high level of 105% by 2031. Only in 2027 would the public debt-to-GDP ratio reach its pre-crisis level at the end of 2019. In plausible scenario alternatives to the Commission's baseline scenario – incorporating potential shortfalls in nominal GDP growth, interest rate hikes, or slower fiscal adjustment – the public debt-to-GDP ratio would still be forecast to remain on a downward path over the 10-year projection horizon, but the pace of debt reduction would be visibly impaired. The Commission's DSA also indicates that there is a significant probability of the public debt ratio to be higher in 2025 than in 2020, according to a stochastic extension of the baseline projection. In the long term, Portugal is projected to face medium fiscal sustainability risks, according to an overall conclusion based on the S2 indicator[10] and the Commission's DSA.

At the same time, there are mitigating factors for the risks associated with Portugal's public debt position, notably linked to the public debt profile. The lengthening of debt maturities in recent years, relatively stable financing sources (with a diversified and large investors' base), the gradual smoothening of the public debt redemption profile, the substantial cash buffer, and historically low borrowing costs supported by the Eurosystem's interventions, jointly contribute to mitigate the medium- and long-term risks. In addition, the implementation of reforms and investments under Next Generation EU, notably the Recovery and Resilience Facility (RRF), is expected to have a substantial positive and long-lasting impact on GDP growth in the coming years, which should contribute to strengthening debt sustainability. However, some non-insignificant degree of uncertainty is related to the accumulation of public contingent liabilities – on top of non-negligible pre-pandemic levels – stemming from some state-owned

[8] The S1 indicator evaluates fiscal sustainability risks linked to the government's capacity to bring the debt ratio to 60% of GDP over the medium term. The definition used in the Debt Sustainability Monitor 2020 (European Commission, Institutional Paper 143, February 2021) corresponded to the required fiscal adjustment, measured as the cumulated adjustment of the structural primary balance over 5 years as from the year when the baseline structural primary balance would return to its pre-COVID crisis value (2029 in the case of Portugal), to bring the debt-to-GDP ratio to 60% 15 years after that year.

[9] A progressive unwinding of the negative impact on public finances of the COVID-19 crisis is assumed – meaning that the structural primary balance is set to progressively adjust over the projection period, converging back to its pre-crisis forecast level (i.e. the level projected for 2021 in the Commission 2019 autumn forecast). For more information on the Commission's fiscal sustainability assessment framework and the additional assumptions made therein, see the Debt Sustainability Monitor 2020 (European Commission, Institutional Paper 143, February 2021).

[10] The S2 indicator evaluates fiscal sustainability risks in the long term related to the country's capacity to meet its debt obligations, over an infinite horizon, with a stream of future primary surpluses. This condition requires that public debt stabilises over the long term (i.e. by 2070).

enterprises and the private sector, including through the possible materialisation of state guarantees granted to firms during the COVID-19 crisis.

As regards macroeconomic imbalances, the outbreak of the COVID-19 pandemic has put a significant upward pressure on Portugal's indebtedness in 2020. The ratios of both public and private debt to GDP increased amid a further deterioration in the external position in the context of a relatively high share of non-performing loans. However, the projected economic recovery is set to move back these indicators on a favourable track, as specified in the Commission's 2021 in-depth review for Portugal published on 2 June 2021.

The macroeconomic scenario underpinning Portugal's 2021 stability programme – which reflects the growth-enhancing impact of a successful implementation of the Portuguese plan – projects real GDP growth of 4% in 2021. Domestic demand is projected to be the main driver of the economic recovery, but external demand is also expected to contribute. Economic growth is projected to improve further to 4.9% in 2022, and to gradually ease afterwards to 2.2% in 2025, with the RRF impact on growth estimated at an annual average of about 0.7 percentage points over the program's five-year horizon. Portugal's 2021 stability program, including the impact of the recovery and resilience plan, projects the unemployment rate at 7.3% in 2021 and 6.7% in 2022, with a further improvement to 5.8% in 2025. Inflation is expected to pick up only moderately to 1.5% in 2025.

The Commission forecasts a similar macroeconomic scenario for 2021 and 2022 as that of the 2021 stability program. As regards domestic demand, and according to its 2021 spring forecast, the Commission projects stronger growth in both private consumption and investment in 2021, compared with the 2021 stability program. The Commission projects private consumption in 2022 to grow at a similar rate as in the program's scenario, while the growth in investment is expected to be slightly lower. As regards the external environment, the Commission forecasts a significantly lower contribution to growth from net exports in 2021, while its projections are in line with the programme's scenario in 2022. As regards the labour market, the Commission projections envisage more favourable developments, particularly in 2021. Inflation projections are slightly higher in the Commission forecast in both years.

The 2021 stability programme foresees the improvement of Portugal's fiscal position in the period 2021-2025. For 2021, the government plans an improvement of the general government deficit to 4.5% of GDP from 5.7% of GDP in 2020, while the debt ratio is planned to decrease to 128% of GDP. According to the program, the deterioration of the primary budget balance in 2021 compared with the pre-crisis level (2019) is set to amount to 5% of GDP, reflecting discretionary budgetary measures of about 3% of GDP in support of the economy and the operation of automatic stabilisers. For 2022, the government plans a further decline of the general government deficit to 3.2% of GDP – mainly due to the phasing-out of fiscal support and the expected economic rebound –, while the general government debt ratio is planned to decrease to 123% of GDP. These program's budgetary plans for 2021 and 2022 are in line with the Commission 2021 spring forecast. According to the program's medium-term budgetary plans, the general government deficit is planned to decrease from 2.2% of GDP in 2023, to 1.1% of GDP in 2025. The general government deficit is thus planned to no longer exceed 3% of GDP in

2023. The general government debt ratio is planned to decrease from 120.7% of GDP in 2023 to 114.3% of GDP in 2025.

Table 1: Comparison of macroeconomic and budgetary developments and forecasts

	2019		2020		2021		2022		2023	2024	2025
	COM	**RRP/SP**	**COM**	**RRP/SP**	**COM**	**RRP/SP**	**COM**	**RRP/SP**	**RRP/SP**	**RRP/SP**	**RRP/SP**
Real GDP (% change)	2.2	2.2	-7.6	-7.6	3.9	4.0	5.1	4.9	2.8	2.4	2.2
HICP inflation (%)	1.2	1.2	-0.1	-0.1	0.9	0.8	1.1	0.9	1.1	1.3	1.5
Employment (% change)	0.8	0.8	-1.7	-1.7	1.0	0.2	1.2	1.1	0.8	0.8	0.8
Unemployment rate (%)	6.5	6.5	6.9	6.8	6.8	7.3	6.5	6.7	6.4	6.0	5.8
GG net lending (% of GDP)	0.1	0.1	-5.7	-5.7	-4.7	-4.5	-3.4	-3.2	-2.2	-1.6	-1.1
Government debt (% of GDP)	116.8	116.8	133.6	133.6	127.2	128.0	122.3	123.0	120.7	117.1	114.3
Note:											
The Commission 2021 spring forecast and the 2021 stablity programme of Portugal include the projected impact of RRF											

The macroeconomic and fiscal outlook continue to be affected by high uncertainty related to the COVID-19 pandemic and its economic consequences. Overall, the macroeconomic scenario presented in the Portuguese plan and underpinning the budgetary projections for 2021 and 2022 in the 2021 stability programme is realistic, based on plausible macroeconomic assumptions compared to the Commission 2021 spring forecast.

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

Smart, sustainable and inclusive growth

The COVID-19 pandemic heavily affected the Portuguese economy and aggravated its pre-existing challenges and vulnerabilities, reversing relevant parts of the positive socio-economic trends observed over recent years. Before the COVID-19 outbreak, the economy was growing at a higher rate than the EU average, catching up from the lows reached at the beginning of the past decade. Since the COVID-19 outbreak, however, unemployment has risen, particularly affecting the youth, reversing the favourable developments of the pre-pandemic period. Productivity has also been impacted, as has the level of investment, which in the pre-pandemic period was already relatively low in Portugal, compared with the EU average.

The COVID-19 pandemic strongly affected the Portuguese labour market, with young people bearing the brunt of job destruction, but swift government support prevented a more severe disruption. The employment rate decreased from 76.1% in 2019 to 74.7% in 2020. The authorities swiftly implemented short-time work schemes and ancillary measures, the most important of which was a tailor-made scheme allowing for the temporary interruption of work or reduction of normal working time, in combination with an exemption from employers' social security contributions, commonly designated as 'simplified lay-off' in Portugal. This prevented the unemployment rate from rising more sharply (6.5% at the end of 2019 compared to 6.9% at the end of 2020). Youth employment (15-24 years) experienced the most noticeable fall, dropping from 28% in 2019 to 23.4% in 2020, while the youth unemployment rate rose significantly from 18.3% in 2019 to 22.6% in 2020. The share of temporary contracts dropped to 17.4% in 2020 (from 20.3% in 2019), representing a reduction of about 126 000 jobs (mostly related to the tourism sector and affecting mostly youth), which was not compensated by the creation of permanent jobs.

Productivity growth, which mildly recovered in 2019, significantly deteriorated in 2020. Starting from a traditionally low base, productivity growth in 2020 returned from its feebly positive trend to a significantly negative one on the back of the COVID-19 pandemic (labour productivity per person contracted by 13.2% y-o-y in Q2-2020, 3% y-o-y in Q3-2020, and 5.7% y-o-y in Q4-2020). Productivity growth in Portugal has remained sluggish, held back, among other factors, by the low levels of capital per worker, relatively low levels of investment (particularly in intangibles), moderate innovation capacity, and the overall low skills level of the population. Other factors related to the business environment may have also hampered productivity growth, such as the large share of micro and under-capitalised firms[11], an underdeveloped capital market, inefficiencies in the justice system, and regulatory restrictions weighing on competition (notably in professional business services). In 2020, the number of new firms registrations fell by 11% compared to 2019, and new business registrations remained subdued in Q1-2021, with possible further unfavourable effects on investment and productivity. Transportation bottlenecks, mainly on ports and railways – where interoperability with Spain remains limited – also act as significant deterrents to productivity growth in Portugal.

Although net total investment turned positive in 2019 for the first time since 2011, a sizeable investment gap has built up over the pre-pandemic period. After sustaining investment levels that were above the EU average over the decade 2001-2010, the subsequent decade 2011-2020 was marked by structurally low investment in Portugal (at an average of 16.7% of GDP, compared with the EU average of 20.7% of GDP over the period 2011-2020). Against that background, the total investment observed in Portugal was lower than the consumption of fixed capital over the period 2012-2018, with net total investment becoming mildly positive only in 2019. In detail, the private investment-to-GDP ratio was on an increasing path since its trough in 2013, and net private investment became positive as of 2017. However, the public investment-to-GDP ratio was visibly reduced during the economic and financial crisis, and it remained particularly subdued throughout the post-programme period (at an average of 1.9% of GDP over 2015-2020, compared with the EU average of 3% of GDP). While this correction of public investment from the high earlier levels may have reflected a stronger focus on high-quality projects, such a protracted period of continuously subdued public investment opened a sizeable investment gap vis-à-vis the EU benchmark. Importantly, decade-long negative net public investment may have contributed to the gradual erosion of the public capital stock. In 2020, private investment growth was halted by the COVID-19 crisis and, in spite of public investment growth accelerating to a double-digit rate, it was not sufficient to fully offset the former's fall. Therefore, there is scope for targeted public investment that would fuel

[11] Bauer, P., Fedotenkov, I., Genty, A., Hallak, I., Harasztosi, P., Martinez Turegano, D., Nguyen, D., Preziosi, N., Rincon-Aznar, A. and Sanchez Martinez, M., Productivity in Europe: Trends and drivers in a service-based economy , EUR 30076 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-10610-4, doi:10.2760/469079, JRC119785.

productivity growth through improved human capital and technological innovation, and generate a crowding-in effect by providing relevant infrastructure for additional private investment.

Notwithstanding a slight increase in Portugal's R&D intensity in recent years, R&D levels have remained low. R&D intensity – that is, expenditure on research and development – has been traditionally low in Portugal. The convergence process towards the EU average during the period 2003-2009 came to a halt during the financial crisis, after which R&D intensity bottomed at 1.24% of GDP in 2015. Since then, R&D intensity recovered only moderately to 1.4% of GDP in 2019 (0.74% of GDP in the business enterprise sector, 0.57% of GDP in the higher education sector and 0.07% of GDP in the government sector). The relatively low levels of R&D intensity, in combination with the modest cooperation between academia and businesses (Portugal ranked 25th in the EU in terms of 'public-private scientific co-publications' in 2019 and 20th in terms of 'public expenditure on R&D financed by business enterprise (national) as a percentage of GDP' in 2018) and the limited monitoring and coordination of the smart specialisation agenda[12], jointly hamper the potential upgrade of the Portuguese R&I system.

Social and territorial cohesion

The socio-economic consequences of the pandemic are unevenly distributed across Portuguese regions, and their different economic specialisations. Regions where economic activity is oriented towards the commercial and hospitality sectors are more affected, largely due to the immense shock in the latter sector, which in 2019 accounted for 8.7% of GDP. Regions most affected include the Algarve, the major urban centres, and the outermost regions of Madeira and the Azores. Regions with a higher concentration of industrial activity, such as Portugal's northern region, have suffered the consequences of restrictions in the exporting sectors, but showed more resilience in economic activity with the reopening of the sector during Q3-2020. The distribution of opportunities is concentrated within urban and coastal regions, which are wealthier than their rural and interior counterparts. Another challenge lies in the depopulation of rural areas, some of which are projected to lose population at a rate above 1% a year between 2015 and 2025. Specific challenges concern the outermost regions of Madeira and the Azores, such as high transport and communication costs, as well as their dependence on few economic activities.

The effects of the COVID-19 crisis and the pre-pandemic trend of rising house prices, combined with the low supply of affordable and social housing, could revert recent positive developments in the reduction of poverty and social exclusion. The ability of social transfers to reduce poverty remained limited over the past ten years and in 2019 stood at 24.2%, compared with the EU average of 32.4%. Monetary poverty – that is, people at risk of poverty after social transfers – was also slightly above the EU average in 2019 (at 17.2%, compared with the EU average of 16.5%), while in-work poverty increased from 9.7% in 2018 to 10.8% in 2019 (compared with the EU average of 9% in the latter year), as did the share of people living in

[12] Laranja, M., Edwards, J., Pinto, H. and Foray, D., Implementation of Smart Specialisation Strategies in Portugal: An assessment, EUR 30287 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-20400-8, doi:10.2760/363370, JRC121189

households with poor housing conditions. The risk of poverty is highest in the Autonomous Regions, with 36.7% at risk of poverty in the Azores and 32.2% in Madeira, compared with 17.8% in the Lisbon region in 2019. While the burden of housing costs in general fell between 2013 and 2019, it increased for poor households. Over the same period, the severe housing deprivation rate remained above the EU average (affecting about 26 000 families, mostly in metropolitan areas and the outermost regions). The share of poor households overburdened by housing costs increased to 22.8% in 2019, about ten times the corresponding share for other households (2.2%). The situation is likely to worsen with the increase of the house price index in 2020, which in Portugal (at 153.4) was well above the EU average (at 126.7). Portugal is characterised by relatively weak public investment in social and affordable housing, with the public housing supply accounting for only around 2% of the total (below the 5% EU average).

Health, and economic, social and institutional resilience

At the outset of the COVID-19 pandemic, the National Health Service had already been facing a challenging situation for years. In 2018, the number of hospital beds in Portugal (3.4 per 1 000 inhabitants) was low compared with the EU average (5 per 1 000 inhabitants). The distribution of health resources (facilities and health professionals) was unequal and sub-optimal, and there were shortages in specific areas (of nurses in general and of specialists in rural areas). Pre-pandemic challenges existed in access to health care and, in 2018, out-of-pocket payments for health care as a share of total health expenditure in Portugal (29.5%) were amongst the highest in the EU (with an average of 21.7%). At the same time, expenditure in the National Health Service had been accelerating since 2015 (driven by costs of wages, medicines and medical devices), which was exerting pressure on hospitals' initial budgets. The latter proved systematically to be insufficient, also partly owing to weaknesses in planning, costing and management control As a result, public hospitals had accumulated a sizeable stock of arrears that reached a peak of 0.5% of GDP in November 2017, before starting to moderate on the back of 'ad-hoc' clearance measures by the government. The emerging track record of recurrent bailouts by the government – which had nevertheless not fully succeeded in avoiding a systematic vicious cycle of hospitals' indebtedness – also triggered knock-on effects on supply-chain relationships.

The planned reforms to strengthen the efficiency and sustainability of the National Health Service came to a temporary halt in view of the COVID-19 pandemic. The design of a comprehensive plan to improve the sustainability of the National Health Service and tackle the root-causes of arrears in public hospitals got under way in 2019, following up on the recommendations of a temporary task force. However, the COVID-19 crisis interrupted its implementation. The plan was expected to introduce an enhanced governance model for public hospitals, with a view to granting them greater autonomy in terms of investment and hiring decisions, in combination with enhanced monitoring and stronger accountability. This strategy crucially hinged upon making best use of the planning and management tools foreseen in the current legal framework. This includes revamping management contracts to strengthen performance-based practices, and ensuring the wide-spread approval of hospitals' budget and activity plans based on compliance with quantitative and qualitative targets that would foster sustainability.

The COVID-19 outbreak coincided with a decrease in hospital procedures and added to pre-pandemic challenges. In 2020, there was a sharp reduction in hospital procedures, which reflected the need to channel resources to fight the COVID-19 pandemic and patients' fear of contracting the virus while at the hospital. As many hospital procedures unrelated to the pandemic were postponed, further pressure has accumulated on the already existing backlogs and waiting lists. In particular, in view of the considerable reduction in consultations and diagnosis testing in public hospitals during the confinement periods, there is a risk of an increased number of undetected serious medical conditions, with possible long-term implications. Furthermore, Portugal's adverse demographic trends – namely, accelerated population ageing and related increasing demand for health care – coincide with changing disease patterns, an increasing burden of chronic and degenerative diseases as well as multi-morbidity gradually becoming more prominent. The current and evolving health care needs and associated increasing costs pose challenges to the responsiveness, sustainability and resilience of the National Health Service.

The COVID-19 crisis has exposed the fragility of the long-term care system in Portugal. Despite improvements in institutional long-term care in the last decade, access rates are low in all regions of the country. The long-term care system in Portugal is expected to face increasing pressure in the coming years, especially due to demographic ageing, which will likely translate into higher demand for long-term care services. The share of potentially dependent persons in the total population is deemed to increase from 8.3% in 2016 to 9.7% in 2030, and to 11.3% in 2050. Portugal has been identified as one of the EU Member States with the highest share of out-of-pocket funding for long-term care. Portugal has a high deficit of long-term care workers, with only 0.8 workers per 100 people aged 65+, compared with 3.8 on average across 25 Member States. In 2016, 95.8% of formal long-term care workers in Portugal were women, compared with 90.8% in the EU-27. According to OECD data, nearly two out of three (64%) long-term care workers in Portugal are low-educated, which compares with an average of 15% in 20 other OECD countries. A recent reform approving the status of care workers in Portugal is helping to reduce the very high rate of informal caregivers, and to formalise employment and skills levels. Social services should also be reinforced further through the recently approved National Disability Strategy to accompany the transition towards a model of independent living and deinstitutionalisation.

A stronger budgetary framework would improve conditions for the economic recovery. In particular, efficiency-oriented spending reviews and the effective implementation of the 2015 Budgetary Framework Law remain of central importance to improve the quality of public finances and make them more growth-friendly. First, this would help to strengthen the medium-term focus of budgetary planning, increasing efficiency when allocating resources to new policy priorities, and placing a greater focus on growth-friendly spending that would support the economic recovery. Second, the 2015 Budgetary Framework Law would introduce the principle of 'programme budgeting', making budget units more accountable and the overall budgetary planning and monitoring more performance-oriented. Third, its multiannual focus would enhance overall transparency and accuracy, making budgetary planning more stable and predictable, thereby supporting confidence levels among economic agents. However, the effective implementation of the 2015 Budgetary Framework Law has been subject to systematic delays. Its implementation should come hand in hand with a significant upgrade of the information systems for public financial management, as well as full adherence to the new accrual-based accounting system (that is, the '*Sistema de Normalização Contabilística para as Administrações Públicas*', SNC-AP). These are expected to take effect gradually across government sectors and bodies. Furthermore, pre-pandemic vulnerabilities related to the financial sustainability of state-owned enterprises constitute a downside risk for Portugal's budgetary outlook, further constraining the available room of manoeuvre for fiscal policy in view of the country's high public debt-to-GDP ratio. These vulnerabilities were heightened on the back of the COVID-19 crisis, notably for the state-owned enterprises that were more vulnerable to the direct consequences of the containment measures, such as those operating in the transport sector.

The efficiency of the justice system remains a major challenge for the Portuguese economy. Despite some improvements, Portugal rates among the Members States with the lengthiest judicial proceedings (notably for administrative and tax justice, with disposition times above 800 days in the first instance[13]), and with one of the highest backlogs of pending cases[14]. Reforms to the legal and institutional framework for insolvency and debt enforcement, as well as the stabilisation in the number of incoming cases, brought some improvements regarding the efficiency of insolvency and civil enforcement proceedings. However, a potential increase in bankruptcies resulting from the COVID-19 pandemic may lead to a surge in litigation cases that could exacerbate the existing bottlenecks, namely the high backlog of older cases. While Portugal adopted measures to ensure the functioning of the justice system remotely, the suspension of deadlines in non-urgent cases and the adjournment of non-urgent acts may further affect the future efficiency of the system.

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

The COVID-19 crisis exposed further the need to invest in education and training systems and policies to upskill a population with low levels of educational attainment. Despite some improvement over the past years, the share of individuals with low educational attainment (44.5% in 2020) and a population lacking basic digital skills (48% in 2019) remain above the EU average (25% and 44%, respectively). Investments in skills, based on a strong skill needs analysis, carried out with relevant stakeholders (social partners, higher education and training institutions), would help improve the qualification levels of the active population and reduce socio-economic inequalities. The gender gap in science, technology, engineering and mathematics (STEM) remains relevant, and despite higher enrolment in information and communications technology (ICT) and STEM, graduate numbers remain low. In terms of infrastructure, there is a persistent lack of available places in public pre-primary schools, particularly in large metropolitan areas and a shortage of affordable university student accommodations. A National Plan for Accommodation in Higher Education, launched in 2019, aims to double the current offer in the coming years. Remote schooling during the COVID-19 pandemic posed significant challenges for disadvantaged students and prompted Portugal to

[13] Figures 9 and 10, 2021 EU Justice Scoreboard (forthcoming).
[14] Figure 16, 2021 EU Justice Scoreboard (forthcoming).

invest significantly in a national digitalisation programme to acquire digital equipment for all primary and secondary students, and provide digital training for teachers. National as well as European structural and investment funds were mobilised to this end too, including the Coronavirus Response Investment Initiative Plus (CRII+).

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 financial allocation needs to contribute to climate objectives. The measures in the plan are expected to contribute to achieving the 2050 climate neutrality objective, and the 2030 energy and climate targets, taking into account Member States' national energy and climate plans. They should also contribute to meeting environmental targets for waste, water, pollution control, sustainable mobility, biodiversity protection and restoration, marine and water resources, and support the transition to sustainable food systems as well as to a circular economy as appropriate, while ensuring that nobody is left behind.

Despite the progress Portugal made in recent years, challenges remain in water management. This applies principally to water governance and water body rehabilitation. Further infrastructure investments are needed to improve water management, such as wastewater collection and treatment, reduction of leaks in the networks and general water supply, as well as nature based solutions and river restoration. Moreover, Portugal should take advantage of the potential of water reuse.

Alongside water management, forest fire prevention is the second critical aspect in a context of increased risk of desertification and climate change vulnerability. Forests cover more than half of the Portuguese territory, of which 92% are privately owned, 6% by local authorities and only 2% by the State. Desertification, depopulation of rural areas as well as fragmentation of land ownership, obstruct sustainable land management, with an impact on biodiversity preservation and on the prevention of forest fires.

Portugal is far below the EU average on circular economy and waste management indicators. With a rate of 29% in 2019, Portugal is missing the EU target of recycling half of municipal waste by 2020. The EU has set even more ambitious targets for the next decade. There are also big differences across regions. Therefore, further efforts are needed in this area.

The emission of several air pollutants has decreased in recent decades in Portugal. However, air quality remains a concern, mainly related to nitrogen dioxide (NO_2). In particular, personal transport exacerbates problems with air quality and traffic congestion in the major metropolitan areas of Lisbon, Porto and Braga, leading to health and economic costs.

Portugal boasts a rich biodiversity. Around 20% of the Portuguese territory belongs to the EU Natura 2000 network (EU average is 18%). However, a scientific assessment of Natura 2000 in Portugal concluded that some species and habitats, particularly in the marine environment, are not sufficiently protected. Therefore, Portugal should extend its Natura 2000 network with additional designations, and provide for the necessary management measures and resources in the sites already designated.

Anticipating the adverse effects of climate change, such as floods, coastal erosion, droughts, heat waves and forest fires, remains a core challenge in Portugal. These natural hazards are expected to become more frequent and extreme due to climate change and decreased ecological resilience caused by the loss of biodiversity, exploitation of natural resources, or pollution. Therefore, measures and investments in risk prevention and preparedness, climate change adaptation and nature-based solutions are necessary to achieve sustainable growth. Access to innovation, including technological solutions, are key for a positive transition towards the optimal environmental performance of businesses in rural areas, which accounted for 79% of land in Portugal in 2016, compared to 45% for the EU-27.

Portugal is not making use of green budgeting practices, which could help deliver on national and international commitments for climate change and environmental protection. Evaluating the environmental impact of fiscal policies and assessing their coherence with central objectives could help make government more accountable, and hence improve compliance with environmental and climate goals. Revamping the spending review process would offer an opportunity for Portugal to scrutinise spending allocations with respect to these priorities, in order to generate further efficiency gains that could be channelled towards them.

Greenhouse Gas (GHG) Emissions

Portugal's targets under the Effort Sharing Regulation (ESR) are 17% emissions reduction by 2030 compared to 2005. In addition, Portugal targets reductions of 85-90% by 2050 compared to 2005, according to its 2050 roadmap for carbon neutrality. By continuing current policies, Portugal is expected to meet its ESR 2030 target with a large margin of 23%. As part of its carbon neutrality objective by 2050, Portugal plans a total GHG emission reduction compared to 2005 of 45% to 55% by 2030 and 65% to 75% by 2040. However, these national targets exclude the land use, land-use change and forestry (LULUCF) sector.

The National Energy and Climate Plan (NECP) provides a broad overview of measures. However, these are not always well defined and there is potential to reinforce policies and measures addressing emissions reductions in the building sector and in the transport sector to achieve significant GHG emission reductions. The NECP describes the national adaptation strategy adopted in 2019 for the period 2020-2030. It includes objectives towards climate change adaptation, the current policy framework and an action programme. Among the objectives, there are improved water management, risk prevention and preparedness to anticipate the adverse effects of climate change. The regional dimension of risk assessment and governance could be strengthened.[15]

[15] For a complete assessment, see Economidou, M., Ringel, M., Valentova, M., Zancanella, P., Tsemekidi-Tzeiranaki, S., Zangheri, P., Paci, D., Serrenho, T., Palermo, V., Bertoldi, P., 2020, National Energy and Climate Plans for 2021-2030 under the EU Energy Union: Assessment of the Energy Efficiency Dimension, EUR 30487

Renewable share

Portugal has the 7th highest share of renewables in energy consumption in the EU. The share of renewable resources in final energy consumption increased from 19.5% in 2005 to 30.6% in 2019. Portugal aims to contribute to the EU's 2030 target for renewable energy by reaching 47% of renewable energy. This contribution is above the 42% share calculated using the formula in Annex II to Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action (the 'Governance Regulation'), setting out the national contributions for the share of energy from renewable sources. However, to achieve this contribution, Portugal will need to add additional policies and measures, in particular to also respond to the high ambition for deployment of renewable hydrogen. While increasing the share of renewable energy sources. Portugal needs to fully take into account the impacts from combustible renewable fuels on air quality.

Energy supply needs to be diversified and transmission and distribution grids should be reinforced. For instance, the full potential of offshore wind and ocean energy needs to be exploited, as well as of decentralised solar photo-voltaic (PV) in cities. The repowering of existing wind parks should also be on the agenda. Similarly, the sustainable use of forestry biomass could contribute towards creating more value in the forestry sector. The integration of renewable energy generation requires the expansion, reinforcement and digitalisation of transmission and distribution grids in the national territory, with Spain and (onwards) France. Adequate interconnections are essential for the security of supply, upholding demand for renewable domestic production during supply surpluses periods, and creating conditions for competitive and stable electricity prices.

Portugal presents unique conditions to develop a renewable hydrogen economy. Favourable conditions include the existence of a modern natural gas infrastructure, very competitive renewable electricity production prices and a strategic geographical location that facilitates exports, notably the deep sea water port of Sines. Investment needs in hydrogen-related projects are estimated at up to EUR 7 billion and could trigger a reduction of natural gas imports by 2030.

Energy efficiency

Portugal's energy efficiency contribution to the EU target is to be 35% more efficient by 2030 in terms of primary energy intensity compared to 2005. This translates into a contribution of 25.5 million tonnes of oil equivalent (Mtoe) for primary energy consumption and 14.9 Mtoe for final energy consumption. The subsequent energy efficiency contributions are considered to be modestly ambitious, both in terms of primary and final energy consumption.

The renovation of buildings is not picking up in Portugal. For public buildings, it remains hampered by tight public procurement rules. For private buildings, there is little demand for renovation. More pro-active and well-designed building renovation programmes are needed to promote energy efficiency renovations, reduce energy poverty, and improve indoor thermal

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EN, Publications Office of the European Union, Luxembourg, 2020, 978-92-76-27013-3, doi:10.2760/678371, JRC122862 comfort, as well as quality and affordability of housing[16]. Specifically in the residential sector of Portugal, it is estimated that for an annual average renovation rate of 2.6% over the period 2021-2050, the primary energy saving potential is 17.5 TWh, by 2050. The employment impact associated to this renovation scenario indicates the generation of more than 2.5 million full time equivalent jobs over the considered period.[17] The national Long-term Renovation Strategy quantifies that the investment needed for the full transformation of the Portuguese building stock is EUR 143 billion until 2050 (EUR 4.95 billion per year).

To achieve the energy efficiency and renewable objectives, it is also important for Portugal to promote other energy investments and reforms. This includes the reinforcement of energy cross-border interconnections, improving the coverage of the transmission grid, smarting/modernisation of electricity distribution grids, electrification of transport, and regulatory reforms for the complete integration in the internal energy market.

The table below gives an overview of Portugal'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.

16 For the assessments of Portuguese past building renovation strategies see: Castellazzi L, Zangheri P and Paci D. Synthesis Report on the assessment of Member States` building renovation strategies . EUR 27722. Luxembourg (Luxembourg): Publications Office of the European Union; 2016. JRC97754; and Castellazzi L. et al., Assessment of second long-term renovation strategies under the Energy Efficiency Directive, EUR 29605 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-79-98727-4, doi:10.2760/973672, JRC114200.

17 Zangheri, P., Armani, R., Kakoulaki, G., Bavetta, M., Martirano, G., Pignatelli, F., Baranzelli, C. Building energy renovation for decarbonisation and Covid-19 recovery. A snapshot at regional level, EUR 30433 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-24766-1, doi:10.2760/08629, JRC122143.

Table 2: Overview of Portugal's energy and climate objectives, targets and contributions

National targets and contributions	Latest available data	2020	2030	Assessment of 2030 ambition level
Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (%)	-16%	1%	-17%	As in ESR, total GHG target implies higher reductions
National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	30.3%	31%	47%	Sufficiently Ambitious *(42% is the result of RES formula)*
National contribution for energy efficiency:				
Primary energy consumption (Mtoe)	22.6 (2018)	22.5	21.5	Modest
Final energy consumption (Mtoe)	16.9 (2018)	17.4	14.9	Modest
Level of electricity interconnectivity (%)	8%	10%	15%	N/A

Source: Assessment of the final national energy and climate plan of Portugal, SWD (2020) 921 final.

Digital dimension

The recovery and resilience plan should contribute to the digital transformation with at least 20% of the financial allocation dedicated to the digital objective. The measures in the plan should, among other objectives, support the digital transformation of the economic and social sectors (including public administration, public services, and the justice and health systems). The objective of the plan's measures should be to improve above all the resilience, agility and security of companies and public sector actors, alongside competitiveness and inclusiveness.

Portugal ranks 19th amongst EU countries in the Commission's 2020 Digital Economy and Society Index (DESI).[18] In March 2020, Portugal approved the action plan '*Portugal Digital*' to accelerate its digital transformation around three pillars: (i) training and digital inclusion; (ii) digital transformation of businesses; and, (iii) digitalisation of public administration.

Portugal faces various challenges in the digital area: investing in the digital transition, particularly in the development of digital skills, both basic and advanced, in the use of digital

[18] DESI 2020 ranking refers to 2019 figures and includes the United Kingdom. Excluding the United Kingdom, Portugal would rank 18th out of 27 Member States.

technologies to ensure equal access to quality education and training, and to boost firms' competitiveness. This is especially relevant in Portugal, where the economy is characterised by micro-enterprises concentrated in traditional sectors.

Other challenges in the field of connectivity concern reducing the connectivity disparities between urban and rural areas, allocating 5G spectrum, replacing the submarine cables to outermost regions, and the digitalisation of firms' licensing process. Portugal's priority is to replace the Atlantic submarine cable ring linking the mainland with Madeira and the Azores (CAM submarine cables), which is reaching the end of its life-cycle. Portugal is also interested in linking Lisbon to Marseille through a new submarine cable. New submarine cables connecting Portugal with other Member States would boost the resilience of the EU's connectivity grid, together with submarine cables to other continents (e.g. South America and Africa), taking advantage of Portugal's geographical location in Europe. The recently inaugurated transatlantic cable, supported by the EU through the BELLA programme, linking Sines in Portugal to Fortaleza in Brazil, will enable the first direct, high-capacity data connection between the two continents to support research and education data exchange and represents a significant step in achieving this objective.[19] A challenge to network deployment in Portugal is the fragmentation of the authorisation rules, necessary to access the infrastructure at municipal level, and the lack of coordination between them. Regarding European projects of common interest that complement and connect Member States' infrastructures, Portugal proposes two projects that are important to both Portugal and the EU: Lisbon-Madeira-Azores-Lisbon and Lisbon-Barcelona-Marseille.

In connectivity, Portugal's results are above average in the deployment of very-high capacity networks and the take-up of broadband connections of at least 100 Mbps. Additional effort is still needed to ensure very high-capacity network coverage and that mobile broadband take-up reaches all households, including those in rural areas. Prices in Portugal are higher than the EU average. The successful rollout of 5G will depend on the implementation of the 5G strategy and on the prompt completion of the 700 MHz award procedures under conditions conducive to investment. To face the challenges posed by the COVID-19 crisis, digital service infrastructures were reinforced to deal with higher demand. However, the spectrum auctions of the 700 MHz and 3.6 GHz pioneer bands planned for Q2-2020 were postponed to start in January 2021 (with a multiple-round auction). The investment needs for Portugal to reach the 2020 and 2025 EU connectivity targets are estimated at EUR 2.8 billion.

Portugal's digital-related public investment in R&D is below the EU average with modest levels of R&D expenditures in the business sector. Progress has been limited on upgrading the country's economic structure towards a higher share of value added in high-tech manufacturing and services. On the other hand, Portugal has joined the group of Strong Innovators (European Innovation Scoreboard 2020) and scores particularly well on small- and medium-sized enterprises (SMEs) innovating in-house and SMEs with product or process innovation. Yet, weak science-business links are holding back the advancement of the research and innovation system. Increased knowledge flows between academia and the private sector, such as joint

[19] https://ec.europa.eu/international-partnerships/projects/bella-building-europe-link-latin-america_en

programmes to support upskilling of workers could accelerate the twin transition. Portugal could boost the R&I public-private cooperation in key sectors for the twin transition, as it is a major bottleneck of the Portuguese innovative ecosystem. This includes developing absorptive capacities, accelerating the technology transfer and innovation diffusion. In this area, Portugal has recently adopted the Portugal 2030 Strategy that, among its objectives, aims to increase total expenditure on R&D to 3% of GDP in 2030, with 1.25% public and 1.75% private, also to align with the objective set in the Commission's Communication 'A new ERA for Research and Innovation' (COM 2020/628).

Portugal performs weakly on digital skills and the use of internet services. In 2019, 48% of the population lacked basic digital skills, and about 26% had no digital skills.[20] These skills gaps hinders the development of a digital economy and society. The country has made significant efforts, but the approach needs to be both comprehensive an ambitious. Another factor is the low share of ICT graduates (2.2% in 2018), which is below the EU average (3.8%).[21] Raising the share of graduates in science and digital technologies, and providing upskilling and reskilling opportunities could help meet the growing demand for the skills that the twin transition needs. Improved access to digital skills, together with better connectivity, could also contribute to the general development of rural and low density areas.

Portugal is a leader in digital public services. It is among the 14 EU countries with two national electronic identity schemes recognised by the other Member States. Portugal continues to invest in the digitalisation of the public sector in order to reduce the administrative burden for businesses. It can affirm its leading position in the field by greater involvement in European cross-border initiatives for digital public services. Portugal could bring about a qualitative shift by investing in public sector use of novel technologies like Cloud computing, predictive analytics, and other uses of Artificial Intelligence, augmented and virtual reality, as well as block-chain. The European Digital Innovation Hubs can help build innovative ecosystems that support the digitalisation of the public sector. During the COVID-19 crisis, the digitalisation of the public administration was accelerated mainly through the *ePortugal* portal.

Cybersecurity is the biggest risk resulting from digital transformation initiatives. An adequate level of security is imperative in order to manage and reduce financial, operational, reputational and legal risks. Portugal's national strategy for Cyberspace Security 2019-2023 aims to maximise resilience, promote innovation, generate and guarantee resources based on six actions: (i) cyberspace security structure; (ii) prevention, education and awareness; (iii) cyberspace and infrastructures protection; (iv) response to threats and combating cybercrime; (v) R&D and innovation; and, (vi) national and international cooperation.

Portugal ranks below the EU average on digitalisation of businesses and on integration of digital technology in businesses.[22] Portugal continues implementing the national strategy for the

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[20] DESI (2020)

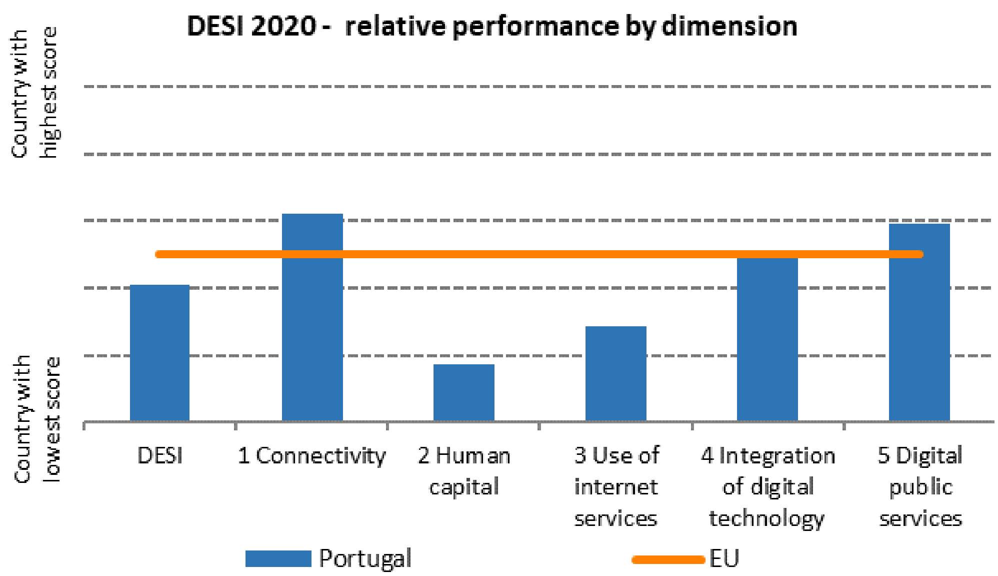
[21] DESI (2020)

[22] DESI (2020)

digitalisation of the economy, committed to the development and deployment of advanced technologies. However, greater efforts targeting key strategic technologies are needed to boost growth and jobs.

One of the main factors hindering the digitalisation of SMEs is the digital knowledge gap. Portugal ranks 21st in the DESI (2020) for human capital. Adopting digital technologies and improving skills levels would increase productivity and help the country's numerous micro-enterprises to grow. At the same time, Portugal could invest more in promoting entrepreneurship and business scale-up with a view to change the specialisation profile of the productive fabric.

Figure 1: ***Digital Economy and Society Index 2020 – relative performance by dimension***



Note: The EU aggregate corresponds to the EU-28, based on the 2020 DESI report.

Supporting the digitalisation of the Portuguese SMEs is an essential element of this effort.

Promoting and, where appropriate, co-financing the European Digital Innovation Hubs would benefit the digitalisation of the Portuguese companies. Another important facet is ensuring that businesses own and control the data they generate, participating in the value created with 'their' data. This requires new ways of data governance. Portugal could support the creation of common European data spaces in crucial economic sectors and domains (e.g. in health, manufacturing, and climate).

Box 1: ***Progress towards the Sustainable Development Goals***

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

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

Green Transition

An area where Portugal performs significantly better than the EU average is ‘on average CO_2 emissions from new passenger cars’ under SDG 9 (industry, innovation and infrastructure). However, emissions have slightly increased in recent years.

Significant progress has also been made in the ‘share of renewable energy in gross final energy consumption’ under SDG 7 (affordable and clean energy), which increased from 24.1% in 2010 to 30.6% in 2019, and stands now well above the EU average. Yet, the country relies heavily on imports from other countries to meet its energy needs: energy imports represented 73.8% of total gross available energy in 2019.

Portugal has also made some progress towards the targets under SDG 2 (zero hunger) that are related to supporting sustainable agriculture and reducing the adverse impacts of agricultural production. In 2019, the share of organic farming in total agricultural area increased significantly and stands now close to the EU average. Still, funding and government support to agricultural R&D remains significantly below the EU average.

Finally, despite some marginal improvement, current levels for some indicators related to the green transition remain significantly lower than the EU average, particularly for the recycling rate of municipal waste and the share of buses and trains in total passenger transport under SDG 11 (sustainable cities and communities) and the circular material use rate under SDG 12 (responsible consumption and production), which is more than five times lower than the EU average (2.2% in Portugal, compared to the EU average of 11.9%, in 2019).

Fairness

Portugal has made progress towards SDG 1 (no poverty) in 2019, bringing the rate of 'people at risk of poverty or social exclusion', in 'severe material deprivation' and living in households with very low work intensity to around or below the EU averages. However, the monetary poverty ('people at risk of poverty after social transfers') was still above the EU average in 2019 (17.2%, while 16.5% in the EU), as were in-work-poverty, which increased to 10.8% in 2019 (9% in the EU in 2019), and the share of people living in households with poor housing conditions.

Regarding SDG 4 (quality education), Portugal has made significant progress in most associated dimensions of this goal, most notably in the percentage of early leavers from education and training, which dropped from around 39% in 2004 to 8.9% in 2020. This share is now below the EU average (10.1%).

Portugal performs relatively well in SDG 5 (gender equality) dimensions and most notably in the gender pay gap rate (10.6% in 2019) and 'gender employment gap' (5.9 percentage points in 2020), both below the EU average (14.1% and 11.3 percentage points respectively).

Concerning SDG 8 (decent work and economic growth) and the targets related to the dimension of fairness, Portugal performs rather well, with the share of young people that are not in education or training 'young NEETs' (Not in Education, Employment or Training) at 11%, well below the EU average of 13.7% in 2020. Furthermore, the long-term unemployment rate has been on a downward path since 2013 and the employment rate surpassed the EU average.

Despite steady improvements, income inequality (SDG 10) was still above the EU average in 2019, with households in the top 20% of the income distribution having incomes 5.2 times those of households in the bottom 20% (5 in EU). Similarly, the lowest 40% of the income distribution earned 20.7% of the total incomes, slightly below the EU average of 21.4%.

Digital transition and productivity

Portugal is underperforming in all targets related to the digital transition and productivity dimension that fall under SDG 8 (decent work and economic growth) and SDG 9 (industry, innovation and infrastructure). Despite some improvements observed in recent years, the investment share of GDP, as well as the gross domestic expenditure in R&D, remain well below the EU averages.

Macroeconomic stability

Portugal's performance under SDG 8 (decent work and economic growth) remains moderate. Before the pandemic, the unemployment rate had been on a downward path since 2013. However, the real GDP per capita and the investment share of GDP are still far below the EU average, although some improvements have been observed in recent years.

With regards to SDG 16 (peace, justice and strong institutions), Portugal made significant progress towards ensuring peace and personal security. Furthermore, the percentage of the population with confidence in the European Institutions and, therefore, trust in European policies, is constantly increasing since 2013 and exceeds the European average.

3. Objectives, structure and governance of the plan

3.1. Overall strategy of the plan

The Portuguese recovery and resilience plan aims to address the challenges identified in the context of the European Semester. The measures included in the plan focus on addressing these challenges by boosting the competitiveness of the Portuguese economy, on improving skills and qualifications, on increasing territorial and social cohesion, and on boosting public and private investment firmly in line with the twin digital and climate transitions. The plan's strategy is structured around the three pillars of resilience, climate and digital transition, and the goals mentioned above are reflected throughout its 20 components.

The 20 components that make up the Portuguese recovery and resilience plan are the following:

COMPONENT 1 – National Health Service

This component of the Portuguese recovery and resilience plan addresses several challenges for the Portuguese health system with respect to current and evolving health care needs and associated costs. First, Portugal's adverse demographic trends – characterised by accelerated ageing and subsequent long-term care needs – coincide with changing disease patterns, an increasing burden of chronic and degenerative diseases, as well as multi-morbidity gradually becoming more prominent. Second, there is still considerable avoidable mortality in Portugal and a relatively low number of healthy life years at age 65. Third, there is available scope to place a greater focus on health promotion and disease prevention, in combination with addressing the fragmentation of health services and the gaps in access to health care. Fourth, out-of-pocket payments for health care are amongst the highest in the EU and the reported financial burden of medical care is relatively high. Finally, Portugal's National Health Service has been facing a challenging financial situation for a number of years. In particular, Portugal has a track record of recurrent bailouts of public hospitals by the government, which did not succeed in avoiding a systematic cycle of hospitals' indebtedness, with knock-on effects on supply-chain relationships.

The main objective of the component is to strengthen the response capacity of Portugal's National Health Service, with a view to responding to the demographic and epidemiological changes in the country, to therapeutic and technological innovation, and to the trend of increasing demand for health care and associated costs. To this end, the component aims to strengthen the core role of primary health services within the overall architecture of the National Health Service, upscale long-term and mental health services, and increase efficiency by completing the reform of the governance model of public hospitals and bringing forward the digitalisation of health services.

The component includes 3 reforms and 9 investments, with total estimated costs of EUR 1 383 million. The component has an overall climate contribution of 22.8%, and a digital contribution of 25.4%.

COMPONENT 2 – Housing

This component of the Portuguese recovery and resilience plan addresses the challenges related to the structural shortage of permanent and temporary housing solutions for the more vulnerable groups and contributes indirectly to reinforcing the social protection system. Public housing only accounts for 2% of the total stock in Portugal and is deemed to be insufficient in addressing the needs of the most deprived and at risk of social exclusion.

The main objectives of the component are: i) to increase the social and affordable housing supply (including addressing other related needs, such as the lack of basic infrastructure and equipment, unhealthy and insecure places of residence, precariousness or lack of contractual ties, overcrowding or inadequacy of housing for the special needs of residents with disabilities or reduced mobility); ii.) to create a national public response to urgent and temporary accommodation needs arising from unexpected or unforeseeable events such as natural disasters, fires, pandemics, migration movements, asylum applications, or situations of imminent risk such as domestic violence, trafficking in human beings, risk of evictions and others; and iii) to increase the supply of student accommodation at affordable prices. The investments in the component entail construction of new dwellings and rehabilitation of existing ones.

The component includes 1 reform and 6 investments for a total estimated cost of EUR 2 732 million, out of which EUR 1 583 million for non-repayable support and EUR 1 149 million for loans. The component has an overall climate contribution of 45%, and a digital contribution of 0.1%.

COMPONENT 3 – Social Responses

Portugal has been facing important demographic and socio-economic challenges for many years which have been amplified by the COVID-19 pandemic. This component of the Portuguese recovery and resilience plan addresses the following challenges: demographic ageing, rights of persons with disabilities and other persons with dependency and situations of poverty and social exclusion among disadvantaged communities and groups. In this context, this component addresses structural social policy related challenges and shortages in social service coverage for populations/regions in need, both in mainland Portugal and in the Autonomous Regions of Azores and Madeira.

The main objectives of the component are: i) improving the social care facilities and ensuring better territorial coverage; ii) strengthening and expanding the network of social responses with innovative solutions and pilot projects and interventions; iii) developing novel community-based support responses, contributing to the promotion of independent living, prevention of dependency and the development of responses for non-institutionalisation in line with the UN Convention on the Rights of Persons with Disabilities; iv) ensuring accessibility to inclusive living and participation in society and the economy for persons with disabilities; and v) promoting the eradication of poverty by developing an all-encompassing national strategy focusing on the most vulnerable and disadvantaged communities.

The component includes 4 reforms and 6 investments, for a total estimated cost of EUR 833 million. The component has an overall climate contribution of 25.3%, and a digital contribution of 1.4%.

COMPONENT 4 – Culture

This component of the Portuguese recovery and resilience plan addresses both the challenges relating to the effects of the COVID-19 pandemic and legacy problems, resulting from a situation of chronic lack of resources for the up-keep, renovation and modernisation of cultural installations and equipment.

The main objectives of the culture component are: i) the renovation of buildings and national monuments; ii) the protection of artisan techniques and professions; iii) the modernisation of the technological infrastructure and cultural installations; iv) the digitalisation of works of art and the cultural heritage; and v) the internationalisation, modernisation and digital transition of bookshops and book publishing.

The component includes 2 investments, for a total estimated cost of EUR 243 million. The component has an overall climate contribution of 24.8%, and a digital contribution of 38.1%.

COMPONENT 5 – Investment and Innovation

This component of the Portuguese recovery and resilience plan addresses challenges related to the relatively modest level of research and innovation, notably through fostering the links between business and science and with a particular focus on innovation on the green transition, and challenges related to the chronic under-capitalisation of the Portuguese business sector that has further deteriorated as a consequence of the COVID-19 pandemic.

The objective of the component is to increase the competitiveness and resilience of the Portuguese economy through measures designed to strengthen research, by fostering the transfer of its results to the business sector, thus promoting innovation and investment. The research and innovation part of the component aims to improve academia-business cooperation, strengthen Portugal's scientific and technological potential and support the implementation of ambitious and comprehensive research and innovation agendas addressing major socio-economic and environmental challenges. This is expected to be achieved through increased and more effective R&D and innovation investments, targeted support to better translate research results into investment, diversification and specialisation of the productive structure, exploiting the actual potential for competitive affirmation of established industrial sectors and emerging areas and contributing to the twin transition. In particular, this component aims at increasing exports of high value added goods and services, increasing R&D investment (both through new high skilled jobs and by increasing the R&D expenditure by firms), and contributing to reduce CO2 emissions.

In line with the need to support the solvency of the productive system and to address market failures in access to finance, this component includes a reform and investments that contribute to the improvement of the Portuguese corporate financing market, through the creation and capital reinforcement of the National Promotional Bank, *Banco Português de Fomento* and the development of new financial instruments. The component also introduces capital market reforms to strengthen the capital markets in Portugal in the long term through the revision of the existing legal framework and the adoption of new laws, with particular emphasis being placed on securities investment companies for development of economy (SIMFEs), collective investment undertakings and the revision of the securities code.

The component includes 5 reforms and 7 investments, for a total estimated cost of EUR 2 914 million, out of which 1,364 in non-repayable support and 1,550 in loans. The component has an overall climate contribution of 18% and a digital contribution of 1.8%.

COMPONENT 6 – Qualifications and Skills

In Portugal, 44.5% of the population aged 25-64 had low education attainment levels in 2020, well above the EU average of 25.0%. In addition, the fraction of the population with basic digital skills or having never used the internet is very high. Equally, labour market segmentation and gender imbalances in pay and career opportunities remain high by EU standards.

This component addresses multiple challenges related with the relatively low education and qualification attainment levels, lifelong learning participation, labour market segmentation, removing administrative barriers in the area of highly regulated professions, preparing for the challenges linked to the future of work, and gender equality and equal opportunities.

The objectives of the component are broad, encompassing skilling and upskilling, some bottlenecks in the business environment, labour market segmentation, gender balance and equal opportunities. As regards production potential, this component focuses on measures to raise the low qualification levels and improve lifelong learning participation through the reform of education and Vocational Education and Training VET systems, foster knowledge transfer between universities/public research organisations and firms, and reduce restrictions in highly regulated professions, while enhancing competitiveness in the provision of business services. The component also presents measures to address various principles of the European Pillar of Social Rights (EPSR), such as labour relations and access to rights protection of workers with atypical labour contracts, financial support to promote the inclusion of unemployed people with permanent quality jobs, and the development of the Portuguese norm for a management system of equal pay.

The component includes 5 reforms and 5 investments, with a total estimated cost of EUR 1 324 million. The component has an overall climate contribution of 13.7%, and a digital contribution of 50.3%.

COMPONENT 7 – Infrastructure

This component of the Portuguese recovery and resilience plan addresses the challenge of low territorial cohesion and the low competitiveness of firms in the inland regions caused by inadequate links to the road network. This leads to context costs for firms, such as transport costs through low road connectivity or the difficulty to attract skilled staff. Another challenge is the need to reduce emissions in the transport sector and in business parks.

The objectives of the component are to increase territorial cohesion and improve competitiveness in order to promote the economic development of the inland regions. Through the deployment of charging stations, it aims to promote the decarbonisation of road transport.

To this end, the component aims to make business parks more sustainable and more digital and provide them with better access to the road network. It also seeks to improve road transport connectivity by expanding the road network, e.g. by addressing missing links, including on the Azores, and providing four cross-border connections. The acceleration of the expansion of the network of publicly accessible electric vehicle charging stations is expected to help reduce the carbon footprint of the road transport sector in Portugal and make it more sustainable. This investment is a flanking measure for the expansion of the road infrastructure, in line with the Commission’s DNSH Guidance (2021/C58/01).

The component includes 6 investments, with a total estimated cost of EUR 690 million. The component has an overall climate contribution of 13%, and a digital contribution of 3.7%.

COMPONENT 8 – Forests

This component of the Portuguese recovery and resilience plan addresses the following challenges: the socio-economic and demographic decline in rural areas, the existence of extensive areas without active management to prevent fires or to protect biodiversity and the highly fragmented private ownership of the land. The exodus of the population towards the major urban centres and the progressive ageing of the rural population has led to the abandonment of rural territories and traditional primary economic sectors. This led to the gradual expansion of forest areas, unplanned and unmanaged and with a high concentration of fuel load. These areas have a strong exposure to the danger of rural fires, which may result in the loss of human lives, extensive damage to land and property and the destruction of forests and the goods and services it produces. Portugal is the country in southern Europe with the largest share of burnt area in rural territories and the highest average number of fires. According to the European Forest Fire Information System (EFFIS), around 169 000 hectares were burnt on average per year between 2015 and 2019.

The objectives of this component are i) to promote the active planning and management of vulnerable and high-environmental value agricultural and forestry land, ii) to protect biodiversity by supporting the restoration of agricultural and forestry ecosystems, especially in burnt areas, iii) to contribute to territorial cohesion and job creation by revitalising the economic activities of rural territories, and iv) to increase the resilience of these territories by reducing the risk of fires through effective and efficient fire-prevention and, in case of fires, by reducing damage through effective and efficient fire-fighting.

The component includes 3 reforms and 5 investments, with a total estimated cost of EUR 615 million. The component has an overall climate contribution of 100%, and a digital contribution of 14%.

COMPONENT 9 – Water Management

This component of the Portuguese recovery and resilience plan addresses the following challenges: deal with the high pressure on storage systems providing water supply and improve water efficiency to counteract the constraints imposed by the expected annual rainfall decrease, higher frequency of droughts, seasonality and water leakage increase. The objectives of the component are to mitigate water scarcity and ensure the resilience of the regions with the biggest drought issue and in critical need of effective to ensure water supply: Algarve, Alentejo and Madeira.

Increased water resilience is of paramount importance to the development of these three regions, representing also a mandatory condition for tourism and ecosystems (especially in the Algarve and Madeira), agriculture (Alentejo and Madeira), economic activity reconfiguration (Alentejo) and to attend to combined pressures of peaks in irrigation needs and human consumption (Madeira).

The component includes 3 investments, with a total estimated cost of EUR 390 million. The component has an overall climate contribution of 40%, and a digital contribution of 0%.

COMPONENT 10 – Sea

This component of the Portuguese recovery and resilience plan addresses the challenge to pave the way for a more competitive, cohesive,inclusive and furthermore a more decarbonised and sustainable sea economy, an area in which Portugal has strong potential. The component is expected to help seizing the opportunities arising from the climate and digital transitions in the sea economy. The objective of this component is to support the achievement of national objectives related to the productive potential of the sea economy. In particular the component seeks to ensure the sustainability and competitiveness of the sea-related business system. In addition, the component has the ambition to tackle at, at least partly, poverty in coastal communities, while ensuring a competitive and cohesive territory in a context of adaptation to climate and digital transitions, including with a focus on skills relevant for the sea sectors. The component is expected to also contribute to preserve the value of the services of the ocean ecosystem.

The component includes 1 reform and 4 investments, with a total estimated cost of EUR 252 million. The component has an overall climate contribution of 45%, and a digital contribution of 0.6%.

COMPONENT 11 – Decarbonisation of Industry

This component of the Portuguese recovery and resilience plan addresses the challenge of the contribution of the industry and industrial processes to achieving the objectives of carbon neutrality, as identified in the Carbon Neutrality Roadmap 2050 and the National Energy and Climate Plan 2030. This requires a structural transformation, based on the reconfiguration of industrial activity, changes in production processes and the way in which the resources are used.

The measure of this component aims at promoting decarbonisation, energy and resource efficiency, and the use of alternative energy sources in the industrial processes. The projects to be supported are expected to also be linked to new technologies, innovation and digitisation of industry, seeking greater efficiency in the various production and organisational processes. The component is set to contribute to the climate transition of the Portuguese industry and support its competitiveness.

The component includes 1 investment, with a total estimated cost of EUR 715 million. The component has an overall climate contribution of 100%, and a digital contribution of 0%.

COMPONENT 12 – Bioeconomy

This component of the Portuguese recovery and resilience plan addresses the challenge of the development of a viable, sustainable, circular and competitive bioeconomy. Such a transition is expected to support the modernisation and consolidation of industry by creating new value chains and greener industrial processes.

The objective of this component is to promote and accelerate the development of high value-added products from biological resources as an alternative to fossil-based materials.

The measures of this component aim at supporting structural changes linked to this transition and is set to contribute to address current global and local challenges, including climate change, the reduction of dependence on fossil resources and sustainable development. Three sectors (textiles and clothing, footwear and natural resin) are expected to be specifically supported for the development of bio-based products and to become more resource efficient.

The component includes 1 reform and 1 investment, with a total estimated cost of EUR 145 million. The component has an overall climate contribution of 96%, and a digital contribution of 0%.

COMPONENT 13 – Energy Efficiency in Buildings

This component of the Portuguese recovery and resilience plan addresses the following challenges: The residential sector accounts for 18% of energy consumption and the services sector for another 14%. Buildings, therefore, play an important role for Portugal to achieve its carbon neutrality targets. Measures in this area, and in particular in the residential segment, can also help to alleviate energy poverty, which remains an important concern in Portugal with the percentage of households unable to keep homes adequately warm still at 19% in 2019. Portugal has committed to achieving carbon neutrality by 2050 and, therefore, needs to promote the decarbonisation of its building stock, while improving housing conditions (indoor comfort and quality) and affordability. This is set to be achieved by focusing on urban regeneration and increasing the energy performance of buildings and by combining energy efficiency and renewable energy with electrification, and targeting in particular low-income households to tackle energy poverty.

The objectives of the component are to renovate public and private buildings to improve their energy performance and comfort, while reducing greenhouse gas emissions, and the country's energy bill and dependence, mitigate energy poverty and to incorporate renewable energy sources the built environment. This should provide numerous social, environmental and economic benefits for people and businesses, such as the creation of local jobs and reduction of air pollution.

The component includes 3 investments, with a total estimated cost of EUR 610 million. The component has an overall climate contribution of 100%, and a digital contribution of 0%.

COMPONENT 14 – Hydrogen and Renewables

Portugal has made a commitment to achieve carbon neutrality by 2050, positioning the country among those taking the lead in the fight against climate change under the Paris Agreement. The Carbon Neutrality Roadmap 2050 (RNC 2050) sets as decarbonisation targets to be achieved an emission reduction of more than 85% compared to 2005 and a carbon sequestration capacity of 13 million tonnes. The component addresses the so-called hard to abate sectors by promoting the deployment of renewable hydrogen.

The objectives of the component are to promote the energy transition and decarbonisation of industry and transport with a strong focus on the production of renewable hydrogen and other renewable gases. In the case of the Autonomous Regions, the focus is on deployment of renewable energy (geothermal, wind, photovoltaic and hydropower) and storage. This component is key to reduce national energy dependency through the production of energy from local sources, to improve the trade balance, and to enhance the resilience of the domestic economy.

The component includes 1 reform, and 3 investments, with a total estimated cost of EUR 370 million. The component has an overall climate contribution of 100%, and a digital contribution of 0%.

COMPONENT 15 – Sustainable Mobility

This component of the Portuguese recovery and resilience plan addresses several challenges of the transport sector: the need to reduce greenhouse gas and pollutant emissions, the need to reduce the dependence on a private car, and the need to guarantee better social cohesion in urban areas.

The objective of this component is to reduce emissions and enhance public transport by expanding the networks, making them more accessible, and strengthening public transport planning capabilities. This is expected to lead to more users of public transport, to encourage the modal shift from private car to public transport and promote better transport management and planning capabilities. To this end, this component consists of reforms and investments that promote sustainable public transport through the extension of the Lisbon and Porto metro, the construction of a light rail system in Lisbon, a bus rapid transit system in Porto, and the purchase of zero emission buses for public transport.

The component includes 1 reform and 5 investments, with a total estimated cost of EUR 967 million. The component has an overall climate contribution of 100%, and a digital contribution of 0%.

COMPONENT 16 – Enterprises 4.0

This component of the Portuguese recovery and resilience plan addresses the challenges related to the low digitalisation of enterprises. According to the results of the Digital Economy and Society Index (DESI 2020), Portugal ranks 19th in the EU and below the EU average. The most fragile dimensions in the case of Portugal are those of 'Human Capital' and 'Use of Internet Services' and some dimension of the 'Integrating digital technologies', all of which reflect limitations on the digital capacity and performance of companies.

The objectives of the component are to target the business sector, in particular SMEs and their employees, with investments to accelerate the digital transition complemented by strengthening the digital skills of the employed workforce. The investments foresee the following actions:

- Strengthening of the digital skills of employees in the business sector;
- Modernisation of the business model of companies as well as their production processes, including the digitalisation of workflows such as business management, innovative products and invoicing;
- Creation of new digital marketing channels for products and services;
- Innovation and incorporation of advanced digital technologies into the business model of firms; and
- Fostering of digitally based entrepreneurship.

The component includes 1 reform, and 3 investments, with a total estimated cost of EUR 650 million. The component has an overall climate contribution of 0%, and a digital contribution of 100%.

<u>COMPONENT 17 – Quality and Sustainability of Public Finances</u>

The component addresses challenges related to Portugal's high public debt-to-GDP ratio, which was aggravated further due to the COVID-19 crisis. The size of Portugal's public debt-to-GDP ratio constraints the available fiscal space and, when economic conditions allow, calls for the need to ensure fiscal sustainability in the medium term. In that context, stronger framework conditions for fiscal policy are expected to contribute to a more growth-friendly path for stronger fiscal sustainability.

The objective of the component is to enhance public financial management in Portugal and to bridge existing gaps in fiscal-structural reforms. Among others, these goals include:

- delivering on the full and effective implementation of the 2015 Budgetary Framework Law and the associated structural changes in terms of budgeting, accounting and information systems;
- increasing efficiency savings through the greater uptake of centralised procurement and spending reviews, which are planned to be integrated in the regular budgetary process and subject to systematic *ex-post* evaluations;
- improving the financial performance of state-owned enterprises through greater transparency, enhanced monitoring and stronger governance, with management becoming more accountable and performance-oriented; and,
- stepping up the efficiency of the revenue administration – including both the Tax and Customs Authority and Social Security services – through exploiting the available scope for greater digitalisation and business-friendliness.

The component includes 1 reform and 3 investments, with a total estimated cost of EUR 406 million. The component has an overall climate contribution of 0% and a digital contribution of 100%.

<u>COMPONENT 18 – Economic Justice and Business Environment</u>

This component of the Portuguese recovery and resilience plan targets the challenge of inefficiencies in the Portuguese justice system as well as remaining bottlenecks in business licencing. The length of administrative and tax procedures has been decreasing in recent years, but remains one of the highest in the EU, and the number of pending cases (case backlog) remains comparatively high. The business environment is also hindered by the low effectiveness of collateral and bankruptcy laws and by heavy licencing procedures in some sectors.

The objective of the component is to strengthen and make more efficient the relations between citizens and companies with the State as well as reduce the burden and complexity that inhibit business activity with impact on productivity. It addresses two longstanding issues: obstacles in obtaining business licences and inefficiencies in the justice system, as well as the adoption of the 'digital by definition' paradigm in the justice system and its promotion in the licencing procedures, both as regards the functioning of courts and on interaction with stakeholders.

The component includes 1 reform and 1 investment, with a total estimated cost of EUR 267 million. The component has an overall climate contribution of 0%, and a digital contribution of 100%.

<u>COMPONENT 19 – Digital Public Administration</u>

This component of the Portuguese recovery and resilience plan focuses on the need to provide better, simpler and more digital public services. While Portugal is well placed when it comes to the provision of digital services, fragmentation and duplication of requirements remain key obstacles to an efficient and user oriented public administration. This reform aims at tackling these challenges.

The component aims at a better public service, by means of fostering the use of technological solutions and strengthening proximity for simpler, secure, effective and efficient access for citizens and businesses, reducing context costs. At the same time, it has the ambition of promoting efficiency, modernisation, innovation and the empowerment of public administration, strengthening its resilience and enhancing the contribution of the state and public administration to economic and social growth and development.

This component is centred on the implementation of the 'digital by definition' paradigm and 'once only' principle in the Portuguese public administration, while investing in the upskilling of the workforce.

The component includes 3 reforms and 7 investments, with a total estimated cost of EUR 578 million. The component has an overall climate contribution of 2%, and a digital contribution of 86.8%.

<u>COMPONENT 20 – Digital School</u>

Portugal had, in 2019, values below European averages in terms of daily use of the Internet (65%), use of online public services (41%) and ICT specialists in the labour market (2.4%) (Eurostat data/Digital Skills Observatory) and set ambitious targets by 2025 for these indicators (80%, 75% and 5% respectively). Among ICT specialists in the labour market, women accounted for 18.3% and men for 81.7% (Eurostat data).

The objectives of the component are to create the conditions for the educational, pedagogical and managerial innovation of the Portuguese primary and secondary education system. This is expected to be achieved by developing digital skills of teachers, students and school staff, by integrating digital technologies in the different curricular areas, and by providing the appropriate equipment. In turn this is expected to contribute to the digital transition and to an inclusive and sustainable growth of the economy.

The component includes 1 reform and 3 investments, with a total estimated cost of EUR 559 million. The component has a 0% climate contribution, and a digital contribution of 100%.

Table 3: Components and associated costs

Component	Costs (EUR million)
C1 National Health Service	1 383
C2 Housing	2 733
C3 Social Responses	833
C4 Culture	243
C5 Investment and Innovation	2 914
C6 Qualifications and Skills	1 324
C7 Infrastructure	690
C8 Forests	615
C9 Water Management	390
C10 Sea	252
C11 Decarbonisation of Industry	715
C12 Bioeconomy	145
C13 Energy Efficiency in Buildings	610
C14 Hydrogen and Renewables	370
C15 Sustainable Mobility	967
C16 Enterprises 4.0	650
C17 Quality and Sustainability of Public Finances	406
C18 Economic Justice and Business Environment	267
C19 Digital Public Administration	578
C20 Digital School	559

3.2. Implementation aspects of the plan

The plan describes and ensures consistency with the other main European and national programmes and planning documents. Portugal designed an overall economic and social policy for the decade called '*Estratégia Portugal 2030*'. This broad strategy was updated to take into account the COVID-19 crisis and adopted in November 2020. It is based on four thematic agendas:

a) a better demographic balance, more inclusion, less inequality;
b) digitalisation, innovation and qualifications as engines of development;
c) climate transition and resource sustainability; and,
d) foreign competitiveness and domestic cohesion.

Portugal intends to use this strategy as a framework for the instruments supporting development over the next decade. It includes not only the recovery and resilience plan, which is a major implementing arm, but also the Partnership Agreement for 2021-2027 (and subsequent Operational Programmes) and other EU funds (both under shared and direct management), as well as national funding, to ensure a comprehensive overview and integrated planning. The 2021-2027 Partnership Agreement is expected to contribute to and complement the recovery and resilience plan on the four thematic agendas of the strategy 2030.

The recovery and resilience plan appears to be coherent with cohesion policy funds, which will remain the main EU financing instrument for economic development. The total amount of grants to Portugal from cohesion policy funds and the European Agricultural Fund for Rural Development (during the programming period of 2021-2027) and non-repayable support under Next Generation EU (2021-2026), are expected to amount to approximately EUR 44 billion.

Funds from cohesion policy and the RRF are expected to benefit from an overall coherent governance model. This should ensure integrated and interconnected planning and programming and, therefore, guarantee that there is no double funding. Furthermore, the measures of the Portuguese recovery and resilience plan should contribute to the objectives of the forthcoming 2021-2027 Partnership Agreement, ensuring synergies between the programmes. Over the next nine years, Portugal will have to execute an average of around EUR 5 billion per year of EU grants and non-repayable support, against an average execution of EUR 3 billion per year in the best-performing years of previous programming periods. This represents both an unprecedented opportunity and a challenge in terms of programming, complementarity of instruments, management capacity, audit responsibility and successful and impactful execution.

The recovery and resilience plan is expected to be a key instrument to finance the climate transition. Most components of the recovery and resilience plan include measures that directly or indirectly contribute to the eight objectives of Portugal's National Energy and Climate Plan, which is used as a strategic framework for the whole plan.

Portugal intends to ensure complementarity of the recovery and resilience plan with the strengthening of the 'National Plan for the Implementation of a Youth Guarantee'

currently under development. Various measures can be identified as contributing directly to the objectives underlying the reinforced Youth Guarantee. In Component 3 – Social Responses, the measure 'Integrated operations in disadvantaged communities in the Lisbon and Porto areas' aims to combat social exclusion, in particular the exclusion of unemployed young people. Component 6 – Qualification and Skills aims to increase the skills and qualifications of young people (and adults) through broadening, improving and diversifying technical and pedagogical capacities. Also in Component 6, the 'sustainable employment commitment' measure is expected to support the creation of permanent open-ended quality jobs, through temporary and targeted hiring subsidies.

The Portuguese recovery and resilience plan is broadly consistent with the challenges and priorities identified in the most recent Draft Council Recommendation on economic policy in the euro area (EAR). The recovery and resilience plan contributes to EAR 1, ensuring a policy stance which supports the recovery, as it implements measures contributing to the resilience of the health and social security system, in particular by strengthening the social response network (Component 3 and Component 1 – National Health Service). Actions focused on the qualification of the labour force (Component 6) help to mitigate the social and labour impact of the crisis. The quality of the country's public financial management should, among others, be strengthened by the digitalisation of the public administration and fiscal-structural reforms (Component 17 – Quality and Sustainability of Public Finances).

Concerning EAR 2 to further improve convergence, resilience and sustainable and inclusive growth, Components 10 to 19 include investments to promote the climate transition and digital transformation, respectively. Component 20 – Digital School should support educational and pedagogical innovation through digitalisation and modernisation. Measures to strengthen vocational education and training, and reskilling and upskilling (Component 6) should enhance productivity, employment and labour market integration.

The plan addresses EAR 3 on strengthening national institutional frameworks, mostly through Component 18 – Economic Justice and Business Environment. This component contributes to the modernisation and digitalisation of the justice system and includes the development of an information system to monitor Portugal's national anti-corruption strategy. Digitalisation measures in Component 1 are expected to strengthen the National Health Service. Component 19 – Digital Public Administration intervenes in the area of public administration modernisation and digital transition, and should reduce the administrative burden and improve the business environment.

On EAR 4 on ensuring macro-financial stability, reforms and investments in Components 1 and 17 address several bottlenecks impacting on the quality of public finances. In addition, the measures in Component 5 on the capitalisation of companies, and the establishment and capital reinforcement of *Banco Português de Fomento* are specifically designed to support viable companies and facilitate access to finance. It is set to be complemented by reforms to develop the Portuguese capital market.

Some elements of the Portuguese recovery and resilience plan should contribute to EAR 5 on completing the Economic and Monetary Union and strengthening the international role of the euro. This concerns mainly deepening the Capital Markets Union, in particular measures to strengthen the Portuguese capital market (reform in Component 5) and the justice system (Component 18), by increasing the efficiency of insolvency and recovery procedures. More generally, measures in Components 5, 17, 18 and 19 should have a positive impact on the business environment and the removal of bottlenecks to investment, contributing to the resilience of the Economic and Monetary Union as a whole.

The plan sets out a clear administrative organisation for its implementation. The Decree Law No 29-B/2021 establishes a four-level governance model:

a) An Inter-ministerial Commission, chaired by the Prime Minister, is in charge of the strategic and policy coordination;
b) A National Monitoring Commission, made up of representatives of the various social and economic partners and key civil society figures and chaired by an independent person, is set to monitor the implementation of the recovery and resilience plan and its results, promote its proper dissemination to citizens, businesses and other organisations, and examine any issues affecting its performance and propose recommendations;
c) An administrative structure '*Estrutura de Missão Recuperar Portugal*' ('task force'), the Agency of Development and Cohesion, and the Ministry of Finance is set to ensure technical coordination and monitoring (see below);
d) The Audit and Control Committee (CAC), chaired by the Inspectorate-General for Finance (IGF), is set to be responsible for audit and control activities.

Portugal has set up a dedicated structure for implementing the recovery and resilience plan ('*Estrutura de Missão Recuperar Portugal'*) under the responsibility of the Ministry of Planning. This task force is set to be in charge of coordinating, monitoring and reporting on the implementation of the recovery and resilience plan. It will, among other tasks, (i) ensure compliance with the EU regulations; (ii) monitor the full and timely fulfilment of the strategic and operational objectives of the recovery and resilience plan through milestones and targets; (iii) ensure that the contracting with beneficiaries is compliant with the respective conditions for the use of funding; (iv) prepare and submit the requests for payment based on the necessary information from the competent authorities, as well as drafting the reports to the European Commission; (v) establish an internal management and control system to prevent and detect irregularities, and take appropriate corrective actions; ensure evaluation of the results of the plan and dissemination of outputs; (vi) put in place effective and proportionate anti-fraud measures, taking into account the risks identified; and, (vii) provide technical assistance to the competent authorities.

The task force *Recuperar Portugal* is expected to conduct these tasks with the Agency for Development and Cohesion ('*Agência para o Desenvolvimento e Coesão*'), which is responsible for coordinating shared management Funds. It is set to also work with the Ministry of Finance (in particular, with the Planning, Strategy, Evaluation and International Relations Office, GPEARI). The Agency is directly responsible for the systematic analysis of double funding and payments to the direct or intermediate beneficiaries of the plan, and is set to be active in the evaluation of the results of the recovery and resilience plan, and the information and transparency mechanism. The Ministry of Finance is expected to monitor the implementation of the recovery and resilience plan, assess the macroeconomic impacts of the reforms and investments, and be responsible for the exchanges within the Council. Technical support can be requested under the Technical Support Instrument to assist Member States in the implementation of the plan. This instrument provides expertise in building capacities to implement the plans in a number of areas covered in the Portuguese plan such as health, justice (including the reform of administrative and tax courts), green, digital and public administration, as well as for the overall implementation of the plan. Sectorial support to policy reforms could also be provided by the Horizon Policy Support Facility, which gives Member States and countries associated to Horizon Europe practical support to design, implement and evaluate reforms that enhance the quality of their research and innovation investments, policies and systems.

For gender equality and equal opportunities for all, the plan has a dual approach: it consists of responding to the consequences of the pandemic and addressing underlying structural factors leading to inequalities, as addressed in the National Strategy for Equality and Non-discrimination (2018-2030). Portugal describes existing national challenges with gender equality and, to a lesser extent, challenges with equal opportunities for all, and explains which reforms and investments are expected to help in overcoming the challenges identified. Portugal plans to use monitoring mechanisms using data disaggregated by gender.

Before it was presented to the country's Parliament, the Portuguese plan was the subject of various public discussions and debates, which covered the plan's main elements. In July 2020 a public consultation was conducted on the 'Strategic Vision for Portugal's Economic Recovery Plan 2020-2030'. This consultation fed into the first draft recovery and resilience plan presented on 15 October 2020. A second draft of the plan was published on 15 February 2021 for a two-week public consultation. Diverse organisations and citizens made some 1 700 written contributions at that occasion. Several public thematic seminars were held with members of the government participating. Some changes were introduced as a result of the consultation on the second draft, most notably two components were added: on cultural activities (Component 4), and on the sea and the blue economy (Component 10). In parallel to this public consultation process, the Portuguese government launched an agenda for consultations with a number of relevant stakeholders (including the Economic and Social Council; the Territorial Coordination Council and the National Health Council). For the implementation phase, Portugal has set up a National Monitoring Commission, made up of representatives of social partners and key civil society figures, who will be able to make recommendations on the implementation of the recovery and resilience plan.

The Portuguese plan includes only minor investments in 5G deployment. These are limited to local 5G networks in business parks and a local project to deploy about 90 km of the 5G network for the public administration in the Autonomous Region of Madeira. The plan also includes investments in school connectivity and in digital capacities for the public administration (cloud, data centres). Portugal has submitted a preliminary security self-assessment for these investments on connectivity and digital capacities. The self-assessment provides for a matrix of risks and mitigating measures. A total of 18 possible risks are identified, including vendor dependency, high risk suppliers, cybersecurity concerns, and disruption of critical systems. Furthermore, the matrix identifies 13 mitigating measures to be enacted to counter the possible risks, including requirement for security clearance by the providers, application of restrictions to suppliers considered to be high-risk, multi-vendor strategies and backup systems for critical functions. The matrix is then applied to all investments with connectivity and digital capacity elements to identify the specific risks of each investment and the related mitigating measures that are expected to be taken. Strategic measures mentioned in the security self-assessment would need to be closely monitored during the implementation of the plan.

The Portuguese recovery and resilience plan includes the following cross-border projects:

- On justice (Component 18), the plan aims to: (i) accelerate and develop the interoperability of criminal record information in the European Criminal Records Information System (ECRIS); (ii) enable the publication and search of interoperable judicial decisions through the European Case Law Identifier (ECLI); (iii) facilitate the exchange of information between judicial entities on the basis of E-Codex; and, (iv) cooperate in the European Car and Driving Licence Information System (EUCARIS) and the use of cross-border identification resources (e.g. eIDAS). Furthermore, the recovery and resilience plan states the intention of providing solutions for interoperability and facilitating information exchange between Member States, taking advantage of the single digital gateway, or in the case of the justice system through the e-Justice portal and/or international cooperation platforms.
- On digitalisation of business (Component 16), the ‘Digital Innovation Hubs’ measure are set to contribute to the European Digital Innovation Hubs project by establishing in Portugal 16 Digital Innovation Hubs that are set to integrate the European network funded by the Digital Europe Programme (DEP).
- On renewable energy (Component 14 – Hydrogen and Renewables), the recovery and resilience plan indicates that part of the projects involving renewable hydrogen production may also be included in the forthcoming Important Project of Common European Interest (IPCEI) on hydrogen. Portugal has expressed interest and it is working with other EU Member States to develop the IPCEI on hydrogen. However, due inter alia to the early stage of this initiative and the uncertainty on its perimeter and on its timing, there is no clarity at this stage on the use of the budget allocation under the RRF for the IPCEI on hydrogen. Nevertheless, even absent the IPCEI on hydrogen Portugal, would still be able to support the foreseen projects on renewable hydrogen production capacity if complying with other State aid compatibility frameworks, and these investments could still be aligned with the EU 2020 strategy on hydrogen and other related EU initiatives.

The recovery and resilience plan broadly outlines Portugal’s communication plans. The task force *Recuperar Portugal* is to design a detailed communication strategy. A EUR 200 000 budget is set to be allocated to implement the communication measures. The Portuguese plan envisages communication based on the five main objectives of:

- **Recognition**: building a brand for the recovery and resilience plan;
- **Information and transparency**: clarifying the main features of the facility;
- **Mobilisation**: ensuring intensive demand for participating in the implementation of the recovery and resilience plan measures by promoting effective communication to mobilise potential beneficiaries;
- **Raising awareness**: contributing to the understanding, discussion and reflection on the challenges that the recovery and resilience plan proposes to address; and,
- **Monitoring and evaluation:** defining a model to report on the monitoring and evaluation of the results of the communication activities.

Portugal plans to target different audiences throughout the different stages of the plan. This is expected to range from the general public at the beginning (including during public consultation) to moments focused on stakeholders, bearing in mind that each component has a specific target audience. Portugal also plans to build on the experiences and models already used for communication on European Structural and Investment Funds and to request that in communication moments the European Commission – i.e. Commissioners and the Representation in Portugal – participate as well as other EU institutions, with a focus on the European Parliament. It is expected that the final communication strategy developed:

- proposes a series of key projects that were selected for funding and on which proactive communication could focus – including jointly with the European Commission; and,
- gives prominence to the European added value of the RRF in the distribution of the funds and its priority areas.

State aid and competition rules fully apply to the measures funded by the RRF. Union funds channelled through the authorities of Member States, like the RRF funds, become State resources and can constitute State aid if all the other criteria of Article 107(1) TFEU are met. When this is the case and State aid is present, these measures must be notified and approved by the Commission before Member States can grant the aid, unless those measures are covered by an existing aid scheme or comply with the applicable conditions of a block exemption regulation, in particular the General Block Exemption Regulation (GBER) declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU.[23] 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 Portugal in the recovery and resilience plan cannot be deemed a State aid notification. Insofar as Portugal 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 Portugal to ensure full compliance with the applicable rules. Irrespective of whether they comply with the EU's State aid regime, measures

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

taken under this framework should 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 plan follows a holistic approach to drive the recovery, while enhancing socio-economic resilience. This is done with the support of 115measures (32 reforms and 83 investments) that refer to the policy areas of European relevance structured in 'six pillars'. The plan helps tackle key structural challenges and paves the way for the twin transition, while protecting the environment. The plan includes 20 components structured around three dimensions: resilience, climate transition, and digital transition. Portugal submitted its National Reform Programme on 30 April 2021. The information provided in the National Reform Programme is being considered and jointly assessed in this Staff Working Document together with the recovery and resilience plan.

The reforms and investments of the plan have many interdependent and complementary objectives. Reforms leverage the impact of associated investments, by bringing structural change and increasing the participation and financing of private agents.

Overall, the plan is balanced and focuses on Portugal's main challenges. Besides the twin transitions, these challenges largely refer to the country's social and educational needs, institutional resilience (including the efficiency of the justice system and of the public administration in general), and the need to boost the productive potential of the economy by investing in research and development, and by improving the business environment. The green and digital pillars meet the targets. The balance between pillars 3 to 6 is broadly adequate, focusing on: (i) strengthening the health and long-term care systems; (ii) providing social and affordable housing; (iii) offering innovative integrated social services, especially in deprived metropolitan areas of Lisbon and Porto; (iv) strengthening education as well as the vocational education and training (VET) systems; (v) ensuring the digitalisation of primary and secondary education; (vi) implementing measures to incentivise innovation and support entrepreneurship; (vii) implementing measures to digitalise public services, make public administration more efficient and improve the quality of public finances; and (viii) implementing measures to improve the business environment, including the modernisation of administrative and tax courts, and the streamlining of legal procedures.

1st Pillar: green transition

The plan extensively covers the 'first pillar', with about three quarters of all components directly related to the 'green transition', therefore contributing adequately to its overall coherence. Measures in the plan are aligned with the Portuguese National Energy and Climate Plan (NECP) for 2021-2030 and the roadmap for carbon neutrality in 2050 (RNC2050), which aims to achieve the goals of energy transition and decarbonisation, including the objectives of a reduction in GHG emissions of between 45% to 55% (compared to 2005), an increase in energy efficiency of 35% (reduction in primary energy consumption), and the reinforcement of the share of renewable sources in energy generation (47% of renewable energy in gross final energy consumption).

In order to implement climate-related policy measures in areas such as energy transition and adaptation to climate change, the plan envisages a broad range of measures:

1. Component 8 – Forests intervenes in forest management to protect the country's forests against rural fires, and to modernise the cadastral system, among others;
2. Component 9 – Water Management contains measures to address water scarcity in the worst affected regions and to adapt to climate change;
3. Component 10 – Sea focusses on the blue economy and contains measures to protect marine resources and to foster research and skills in the sector, together with the implementation of more efficient energy and resource use solutions for fisheries;
4. Component 11 – Decarbonisation of Industry provides subsidies for the adoption of low carbon processes and technologies;
5. Component 12 – Bioeconomy focuses on three strategic industrial sectors to promote a modern and circular bio-industry;
6. Component 13 – Energy Efficiency in Buildings aims to improve the energy efficiency of buildings, for example, by investing in the renovation of buildings and handing out vouchers to energy poor households. Also Component 1 – National Health Service, Component 2 – Housing and Component 3 – Social Responses envisage the construction of new energy efficient buildings and the renovation of buildings;
7. Component 14 – Hydrogen and Renewables promotes the production of renewable hydrogen and other renewable gases and of renewable energy and storage capacity in the Autonomous Regions of the Azores and Madeira;
8. Component 15 – Sustainable Mobility strengthens sustainable mobility, including through the use of public transport. Furthermore, Component 1 – National Health Service and Component 3 – Social Responses envisage the renewal of some of vehicles in the health and social services' fleets with electric cars.

All of these measures contribute to the green transition, favour biodiversity and environmental protection, and help to reduce energy poverty. In addition, there are another eight components that have partial contributions to the green transition. Based on the methodology for climate tracking set out in Annex VI to Regulation (EU) 2021/241, the quantitative assessment of the plan in relation to the climate target finds a contribution of 37.9% of the total allocation, thereby complying with the minimum threshold of 37%, with a direct contribution from 16 of the 20 components.

2nd Pillar: digital transition

The plan extensively covers the 'second pillar', with about half of its components directly related to 'digital transformation', therefore contributing adequately to its overall coherence. Despite positive developments in recent years, Portugal still lags behind the EU average on digital indicators, ranking 19th out of the EU Member States in the Digital Economy and Society Index (DESI) 2020.[24] The country continues to perform weakly in human capital in dimensions such as basic digital skills, ICT specialists (including lack of female ICT specialists), use of internet services, and online sales. However, in digital public services, Portugal ranks among the best performers in the EU.

The plan directly addresses digital-related challenges in Components 16, 17, 18, 19 and 20 and, indirectly, with the strong complementarities in Components 1, 4, 5 and 6. Component 5 – Investment and Innovation aims, among others, to improve the specialisation profile of firms through digitalisation, knowledge transfer and innovation. This includes innovation in agriculture, where proposed investments target some of the objectives of the 'Farm to Fork Strategy' (such as reducing dependency on pesticides, supporting the shift to a sustainable diet, as well as developing and promoting innovative agricultural production systems). Within the overall context of the digital transformation, Component 6 – Qualifications and Skills includes: (i) investments to reform and strengthen vocational education and training , including training in digital literacy and skills; (ii) lifelong learning for adults, raising the participation rates of adults in courses to promote basic levels of literacy, numeracy and digital skills; (iii) furthering the process of recognition, validation, and certification of competencies for low-qualified adults; (iv) fostering collaborative partnerships between higher education institutions, the public sector and firms to facilitate the transfer of knowledge; and, (v) post-graduate courses of short duration.

Component 16 – Enterprises 4.0 is in line with the European Commission's Communication 'Shaping Europe's Digital Future' and with its objective of creating a 'fair and competitive economy'. It achieves this by developing, marketing and using digital technologies, products and services at a scale that boosts their productivity and competitiveness. It is expected that this component will support experimentation with new digitally based products and services, the digitisation of traditional commerce and professions, and the internationalisation of businesses.

A number of components aim to cut the costs of administrative red tape through the widespread adoption of digital channels for the provision of public services. These are Component 17 – Quality and Sustainability of Public Finances, Component 18 – Economic Justice and Business Environment, and Component 19 – Digital Public Administration. Dematerialisation, automation and the interoperability of procedures, even without changing administrative requirements, should bring considerable advantages in terms of reducing the administrative burden for individuals and businesses. The envisaged move towards a Single Digital Portal and the implementation of the 'once only principle' are expected to have a

[24] DESI 2020 ranking refers to 2019 figures and includes the United Kingdom. Excluding the United Kingdom, Portugal would rank 18th out of 27 Member States.

significant impact in this area. The increased digitalisation of public services requires simultaneous investments in the skills of civil servants.

Component 20 – Digital School aims to adapt academic curricula and teaching methods to ICT developments, in order to face societal changes and the challenges of the future world of work. It envisages a reform of teaching methods based on the digitalisation of course materials, the dematerialisation of testing, the distribution of information technology (IT) personal equipment to teachers and students, and the improvement of connectivity and the setting up of a schools' network. Component 20's objectives are in line with the European Commission's Communication 'Shaping Europe's Digital Future' and in particular with its objective of promoting a 'technology that works for people', through among others, the development, and uptake of technology that makes a real difference to people's lives.

Based on the methodology for digital tagging set out in Annex VII to Regulation (EU) 2021/241, the quantitative assessment of the plan in relation to the digital target finds a contribution of 22.1% of the plan's total allocation, therefore complying with the minimum threshold of 20%, with a contribution from 14 Components out of 20.

3rd Pillar: smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs

The plan extensively covers the 'third pillar', with all components directly involved, therefore contributing adequately to its overall coherence. Given the complexity of the 3rd Pillar, in order to assess how well the Portuguese plan covers its multiple dimensions, it is useful to break it down into its constituent parts.

Smart, sustainable and inclusive growth:

- Components 4, 5, 6, 7, 12, 14 and 16 enhance the productive capacity of the economy;
- Components 8, 9, 10, 11, 12, 13, 14 and 15 promote sustainable growth and climate adaptation;
- Component 17 implements a broad set of coherent fiscal-structural reforms, among others to strengthen public expenditure control, which should contribute to enhance the quality of public finances by shifting resources towards areas that maximise the potential for sustainable and inclusive economic growth.

Economic cohesion, jobs, productivity, competitiveness:

- Components 1, 2 and 3 relate to the universal provision of social services;
- Components 3 and 6 contribute to sustainable growth and inclusion, gender equality and equal opportunities for all and the European Pillar of Social Rights.

Research, development and innovation:

- Components 5, 10, 11, 12, 13, 14 and 15 directly relate to research, innovation, new technologies and decarbonisation;
- Components 6, 16 and 20 are linked to education and the digital transformation.

A well-functioning internal market with strong SMEs:

- Component 5 contributes to improve access to finance for firms and the development of the capital market;
- Components 18 and 19 promote the dematerialisation of public services, streamlining licensing procedures and improving the effectiveness of the justice system.

4th Pillar: Social and territorial cohesion

The plan extensively covers the 'fourth pillar', with more than half of all components directly related to 'social and territorial cohesion', therefore contributing adequately to its overall coherence. Measures in the plan are set to be closely articulated with other EU Funds, such as those under the Partnership Agreement Portugal 2030 or other centrally-managed funds (e.g. Connecting Europe Facility, Horizon Europe).

The promotion of economic, social and territorial cohesion in the next decade is expected to take into account the principles and guidelines set out in the recently adopted Territorial Agenda 2030. This is the EU strategic policy document for spatial planning in Europe that provides the framework for conducting territorial cohesion action and helping to achieve the Sustainable Development Goals.

Territorial cohesion is predominantly addressed by the Resilience dimension of the plan and is strongly intertwined with social aspects. Component 1 – National Health Service has a strong territorial dimension, given that primary health care, mental health and long-term care services are set to become better anchored on local services and strive for community-based care, and wide-ranging investments in health services are also envisaged in the outermost Autonomous Regions of Madeira and the Azores. Social housing at affordable rents (Component 2 – Housing), whether permanent or temporary, is set to largely be provided through the implementation of municipal housing programmes under the coordination of the national agency for housing and urban renewal (IHRU). Moreover, specific housing investments are planned in the Autonomous Regions of Azores and Madeira. Component 4 – Culture also has a strong territorial dimension. The renovation of buildings and national monuments and the protection of artisan techniques and professions increase the economic attractiveness of regions by developing cultural and social activities of high economic value, which helps to reinvigorate tourism. Under Component 15 – Sustainable mobility, investments to expand the underground networks in the two large metropolitan areas help to improve accessibility / mobility according to best urban planning practices and also contribute to decarbonisation. Having both social and territorial dimensions, Component 3 – Social responses plans to strengthen social facilities and social services, such as the national networks of social day care centres and residential structures for elderly people, ensuring broad territorial coverage. Significant investments targeting vulnerable groups are also planned in the Metropolitan Areas of Lisbon and Porto.

5th Pillar: Health and economic, social and institutional resilience, with the aim of increasing crisis preparedness and crisis response capacity, among others

The plan extensively covers the 'fifth pillar', with about half of all components directly related to it, therefore contributing adequately to its overall coherence. Despite the rise in total resources (such as through hiring of medical staff) and the reallocation of existing resources within the National Health Service (for instance, hospital wards dedicated to COVID-19 patients), the health system has been under considerable pressure since the outbreak of the COVID-19 pandemic. At the same time, non-COVID-19 patients have been experiencing longer delays in diagnosis and treatment. The health emergency has also led to greater inequality in access to health care, particularly for low-income households or people living inland and in less populated areas, a situation worsened by the fact that on average about 30% of medical expenses in Portugal are not reimbursed. This is one of the highest percentages in the EU, where the aggregate average was about 21.7% in 2018.

As for the priority of reducing social vulnerabilities, the main measures envisaged are to:

i. strengthen the national networks of primary, palliative and integrated continued care services (Component 1 – National Health Service);

ii. increase access to social housing at affordable rents and to temporary housing in emergency situations (Component 2 – Housing);

iii. strengthen, expand, upgrade and reform the social responses network (Component 3 – Social Responses).

The plan also addresses strengthening the institutional capacity and resiliency of Portugal's public administration. This is done through the adoption of digital technologies and interoperability solutions, contributing to the reduction of administrative costs (Components 17, 18 and 19). In particular, measures in Component 17 – Quality and Sustainability of Public Finances aim, among others, at modernising financial management in the general government in order to use resources more efficiently and improve the quality of public expenditure, as well as at making Social Security services more user-friendly.

6th Pillar: Policies for the next generation, children and young people, such as education and skills

The plan extensively covers the 'sixth pillar', with nearly one third of all components directly related to it, therefore contributing adequately to its overall coherence. Although children and young people are among the age groups less affected by the pandemic on health grounds, they have been among those most impacted by social distancing rules, which led to school closures and changed the nature of work in many (tertiary) jobs involving face-to-face contacts. There is evidence suggesting that the number of years of schooling is strongly correlated with life earnings. At the same time, long periods of inactivity and/or difficult transitions between jobs or between education/VET activities and employment tend to impact negatively on lifetime income earnings.

The plan presents a number of measures with a direct impact on children and young people, including:

- an increase in the capacity of childcare facilities and subsidies to low-income households as an incentive to promote the pre-school and nursery participation (Component 3 – Social Responses);
- the creation of study support points for children and youths to combat early school drop outs and additional support, in the form of the payment of higher education fees to students from low-income families (Component 3 – Social Responses);
- the award of temporary wage subsidies for sustainable quality employment for young people (Component 6 – Qualifications and Skills);
- an increase in the offer of VET courses adapted to labour market needs, and of tertiary education posts, including for science, technology, engineering, the arts and mathematics (STEAM) courses (Component 6);
- Investments in student accommodations at affordable prices for tertiary education, to reduce the barrier to study for students that need to move to other cities for tertiary education (Component 2);
- systematic distribution of personal IT equipment to students and teaching staff, together with the widespread use of digital content in secondary education (Component 20 – Digital School).

Conclusion on the assessment of criterion 2.1 of Annex V to the RRF Regulation

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

Table 4: Coverage of the six pillars of the Facility by the Portuguese 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. National Health Service	○	●	○	●	●	○
2. Housing	○	○	○	●	●	○
3. Social Responses	○	○	○	●	●	●
4. Culture	○	●	○	●		●
5. Investment and Innovation	○	○	●		○	
6. Qualifications and Skills	○	●	●	●	○	●
7. Infrastructure	○	○	○	●	○	
8. Forests	●	○	○	○	○	
9. Water Management	●		○	○	○	
10. Sea	●	○	○	○		
11 Decarbonisation of Industry	●		○			
12 Bioeconomy	●		○	○		
13 Energy Efficiency in Buildings	●		○			
14 Hydrogen and Renewables	●		●			
15 Sustainable Mobility	●		○	●		
16 Enterprises 4.0		●	●			
17 Quality and Sustainability of Public Finances		●	●		●	
18 Economic Justice and Business Environment		●	○		●	
19 Digital Public Administration	○	●	○	○	●	○
20 Digital School		●	●	●		●

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

4.2. Link with Country Specific Recommendations and the European Semester

The plan is expected to contribute to addressing a large set of challenges for the Portuguese economy. It envisages reforms and investments in the areas of quality and sustainability of public finances, accessibility and resilience of the health system, employment, education and skills, climate and digital transition and in the area of the business environment and the justice system.

The Portuguese plan is ambitious in addressing a significant subset of the challenges identified in the European Semester. It does so with a large set of reforms and investments that address the country-specific recommendations issued in the framework of the European Semester in 2019 and in 2020. The recovery and resilience plan is one of the key instruments for implementing the medium-term Portugal 2030 strategy for the country's social, economic, regional and environmental development. The Portugal 2030 strategy addresses the main structural challenges of the Portuguese economy and society, in particular by promoting reforms and investment in institutional resilience, reforms in the business environment, significant investments and reforms in the twin transition, fiscal structural reforms and investment in skills and competences. The strategy also has a strong focus on reducing social and territorial inequalities, increasing competitiveness and strengthening internal cohesion. As part of this longer-term strategy, the recovery and resilience plan introduces a coherent set of reforms and investments that complement and reinforce each other. The package of reforms presented in the plan aims to promote the transformation of Portugal's economy and society to adapt to the trends of the upcoming decade. At the same time, the aim is to ensure, through a gradual and systematic approach, that the country is able to overcome structural bottlenecks to its economic, social and territorial development. The investments proposed in the plan are intended to implement the reforms by promoting the conditions for fairer, more sustainable economic, social and regional development, while ensuring the effectiveness and efficiency of these investments. The plan, as a significant instrument for promoting investment in the economy, is a powerful tool for driving relevant factors for the competitiveness of the Portuguese economy. In addition, the plan provides a significant response to common challenges, notably in particular the flagships identified in the 2021 Annual Sustainable Growth Strategy.

The plan provides an opportunity to address imbalances identified by the 2021 Alert Mechanism Report. These imbalances are also confirmed by the Commission's in-depth review of 2 June 2021 with vulnerabilities related to large stocks of net external liabilities, private and government debt, and non-performing loans (NPLs) remain high, against a backdrop of low productivity growth.

The plan is built around the main objective of providing an appropriate response to the effects of the COVID-19 pandemic, promoting the necessary steps to sustain the economy (CSR 1.1 2020). Each of the 20 components of the plan contribute to this objective. The COVID-19 pandemic required immediate action on health, in parallel with a set of measures to mitigate its severe social and economic effects, which was extended over time in the face of the upsurge of the pandemic in October and November 2020 (second wave) and January 2021 (third wave). The emergency response is complemented by the set of medium-term responses embedded across the plan to support a transformative, sustained and fair economic and social recovery, which underpins the plan's 20 components.

Improving the quality of public finances and the financial sustainability of state-owned enterprises (CSR 1.2 and 1.3 2019) is a necessary condition to strengthen Portugal's economic resilience, thus being central to the plan. The high public debt-to-GDP ratio – which increased further in view of the COVID-19 crisis – translates into high fiscal sustainability risks in the medium term. Thus, it is important for Portugal to enhance the quality of public finances, by prioritising growth-friendly spending, while strengthening expenditure control, cost efficiency and appropriate budgeting. In response to those challenges, Component 17 – Quality and Sustainability of Public Finances comprises an all-encompassing fiscal-structural that is expected to contribute to improving the quality of public finances in Portugal, including by: (i) gradual steps conducive to the implementation of the 2015 Budgetary Framework Law; (ii) improving the planning and management of public resources, which includes making spending reviews a structural feature of Portugal's annual budgetary process, ensuring the ex-post evaluation of efficiency gains, and keeping arrears in check across public administration; (iii) strengthening the financial sustainability of state-owned enterprises through a more timely, transparent and comprehensive monitoring, as well as their governance through performance-oriented management practices; and, (iv) upgrading the information systems for rural property taxation (in complementarity with component 8) and the provision of Social Security services. Furthermore, the completion of the reform of the governance model of public hospitals, included in Component 1 – National Health Service, is expected to enhance the management of health resources, thereby contributing to enhance overall effectiveness and efficiency, and durably containing the accumulation of arrears in hospitals. This is to be achieved, among other initiatives, by: i) strengthening the implementation of planning and management tools that is expected to allow granting hospitals greater autonomy in terms of investment and hiring decisions, in combination with enhanced monitoring and stronger accountability; and, ii) improving the use of performance assessment tools. Parallel projects to review the National Health Service's network are also expected to support the implementation of reforms to promote its efficiency and adequacy. Overall, the reforms of Components 1 and 17 are expected to substantially address the challenges relating to the quality of public finances and the financial sustainability of state-owned enterprises.

The plan is ambitious in strengthening the resilience of the health system and improving access to quality health care and long-term care (CSR 1.2 and 1.3 2020). Component 1 – National Health Service aims to strengthen the National Health Service's capacity to respond to the country's demographic and epidemiological challenges, therapeutic and technological innovation, as well as the rising demand for health care and the ensuing costs. The response provided by this component is comprehensive and cross-cutting, covering primary, hospital, long-term and mental health care. The governance concerns of these different levels of care are well articulated in the framework of reforms under the component, enhancing the services network, focusing on citizens and their health needs, and targeting improvements in access and quality of services. This component also includes investments to ensure that the health system is able to provide new forms of health services, leveraging the use of digital tools to improve access and increase equity in the provision of such services (for instance, telemedicine, telecare). It also incorporates a dedicated programme to promote the digital transformation of health, by improving and strengthening the information systems of the National Health Service. Finally, these investments and reforms are further boosted by the upgrade, expansion and reform of the social responses network under Component 3 – Social Responses, which is expected to influence the resilience of the health system by strengthening and innovating long-term care responses, in particular for the elderly.

The plan aims to improve the population's overall level of skills including digital skills (CSR 2.2 and 2.3 2019) and reinforces the link between regional and sectoral skills needs and vocational education and the training offer. The focus is also on increasing the relevance of adult learning in order to meet the needs of the labour market and on increasing the number of graduates, in particular in STEAMs. These challenges are addressed to a large extent by Components 6 – Qualifications and skills and Component 16 – Enterprises 4.0 and by Component 20 – Digital School. Component 6 aims to increase the responsiveness of the Portuguese education and training system, especially for young people and low-skilled adults, in close connection with the country's business needs. Component 16 aims to provide digital and technical skills to the workforce. In addition, Component 20 aims to create conditions for educational and pedagogical innovation with the aim to develop skills in digital technologies for the younger generations. To this end, emphasis is placed on the importance of the reforms to be implemented, in particular the reform of vocational education and training (reform RE-r14), which aims to strengthen the Portuguese education and training systems' responsiveness to the needs of the labour market, and the reform of cooperation between higher education and public administration and business (reform RE.r15), which aim to equip students not only with the scientific skills appropriate to the course taught, but also with a set of transversal skills enabling them to evolve in a dynamic business environment where knowledge is gradually progressing. Other reforms and investments in other components of the plan help to address the challenges on skills. For example, Component 10 – Sea foresees the creation of a Blue Hub School to promote a sustained increase at all levels of qualifications in the maritime sector. Component 2 – Housing provides for an investment to double the national supply of the number of beds for students at an affordable price, hence helping to reduce one of the major barriers to studying and with a potential impact on tertiary education enrolment. Component 3 – Social responses includes measures to combat early school drop outs through the creation of study support points, as well as training programmes for families covered by the Social Inclusion Income to provide them with complementary basic skills and enable them to enter the labour market. Skills are also boosted by Component 16 – Enterprises 4.0, which includes an investment to improve the digital skills of employees, and Component 19 – Digital Public Administration, focusing on the objective of raising the level of skills and competences, in particular digital skills, of the public administration to make it more efficient and digital at the same time improve future public policy making.

The plan provides a significant response to improve the effectiveness and adequacy of social protection (CSR 2.3 2019 and 2.2 2020). In Portugal the effectiveness of social transfers, other than pensions, is low in an EU peer comparison. Component 3 – Social Responses aims to strengthen, expand, upgrade and reform social services that respond to the interlinked challenges of childcare, ageing, long-term care and disabilities. Moreover, Component 3 aims to promote integrated interventions in disadvantaged metropolitan areas and communities in order to combat poverty and strengthen social inclusion. This is set to mainly be achieved by reinforcing the network of social responses, developing innovative community-based solutions and investing in accessibility and participation in community and working life for people with disabilities. In addition, implementation of the public housing policy (Component 2 – Housing) is expected to make an essential contribution to facilitate access to affordable and social housing, as well as catering for urgent and temporary housing and shelter needs. This component aims to provide adequate access to housing to at least 26 000 households and address housing needs for homeless people, refugees, migrants and asylum seekers, or victims of domestic violence (around 10 000 people per year combined). Specific social and affordable housing investments are also planned in the Autonomous Regions of Madeira and the Azores.

The plan introduces relevant measures to reduce labour market segmentation, support quality employment and the preservation of jobs (CSR 2.1, 2.3 2019 and 2.4 2020). Through the digitalisation efforts of Portuguese companies, the plan aims to promote the modernisation of work and production processes, the dematerialisation of workflows, the alleviation of skills gaps in the use of digital technologies, the incorporation of teleworking tools and methodologies, the creation of new digital channels for marketing products and services and the incorporation of disruptive technologies (notably through Component 16 – Digitalisation of Businesses). In addition, Component 6 – Qualification and Skills foresees targeted investments for those in employment through upgrading their skills to meet emerging needs in view of the digital and environmental transition. The fight against segmentation and precariousness is also addressed by the reform of the Decent Work Agenda (RE-r17), included in Component 6, which aims to promote collective bargaining, training and qualifications, and the protection of adequate wages and decent income, ensured through social dialogue. Moreover, the reform also envisages discussions on the future of work and regulating new forms of work (notably platform work). This reform is set to be complemented by investments in sustainable job creation (RE-C06.i02), encouraging in particular the hiring of young people to enable a recovery from the crisis with a stable and permanent framework for employment relationships. In parallel, the fight against gender inequality (RE-r18), which aims to combat discriminatory practices, is set to continue with reforms, while structural action is expected to be taken to combat gender stereotypes that limit the educational and professional choices of women and girls and have an impact on their income and professional careers. To a lesser extent, Component 4 – Culture and Component 10 – Sea are also expected to help address this challenge in their respective sectors.

The plan significantly aims to support the use of digital technologies and promote digital skills for various population groups such students, teachers, the workforce, businesses and civil servants (CSR 2.2 2019 and 2.3 and 2.4 2020). These efforts cut across various components, ranging from support for digital skills to investments in digital technologies. This is covered in Components 7, 16, 17, 18, 19 and 20, which together correspond to the structuring dimension of the digital transition and are complemented by Components 1, 3, 4, 5 and 6.

The plan introduces significant measures to promote access to finance, in particular to SMEs, and promote private and public investment for the country's economic recovery (CSR 3 2020). The plan is based on two complementary approaches, leveraging private investment and increasing public investment (notably through Components 5, 11, 12, 13, 14 and 16). Component 5 – Investment and Innovation focuses on supporting the capitalisation of businesses and minimising market failures in access to finance by, among others, creating and developing Banco Português de Fomento and providing it with the financial capacity to create the financial conditions for enabling projects of national strategic interest. In parallel, Components 11 – Decarbonisation of Industry and 16 – Enterprises 4.0 aim to leverage the investments needed for Portuguese companies to adapt to the twin climate and digital transitions. The support provided for in Component 11 to decarbonise industry is expected to ensure the Portuguese productive system's timely preparation for new environmental requirements. Component 16 should help with the digital transformation of SMEs' business models by enabling them to reposition their business in a digitally advanced ecosystem, particularly relevant in the context of the pandemic.

The plan introduces significant reforms and investments to promote investment in research and innovation and make these more efficient and effective (CSR 3.3 2019 and 2020). Component 5 – Investment and Innovation introduces reforms and investments to support ambitious research and innovation agendas, notably in areas relevant for the green transition. In addition, Component 12 – Bioeconomy promotes the development of high value added products using biological resources in the key sectors of textiles, footwear and natural resins. Other components contribute to research and innovation in specific sectors of the economy, notably Components 4 and 10, but also 6, 7, 11, 14, 16, 17, 18, and 19. These incorporate elements of innovation in production processes often associated with research and development directly related to those policy areas. Component 20 — Digital School also contributes. The implementation of several reforms, in particular to promote R&I&D and innovative business investment (RE.r09), aims to increase the weight of high value added products in the economy and strengthen the network of interface institutions (RE-r11) so that this network has the necessary resources/capabilities to support knowledge and technology transfer.

The plan promotes investment for the climate and green transition (CSR 3 2019 and 2020). Through Components 10 to 15, which together constitute the plan's climate transition dimension, and Components 4, 5, 8 and 9 which also incorporate measures directly linked to the climate transition, the plan places a strong emphasis on addressing this challenge. The reforms and investments included in these components are aimed at decarbonising the economy, introducing actions to reduce the energy intensity of the economy (for example Component 13 – Energy Efficiency in Buildings and Component 11 – Decarbonisation of Industry, and Component 15 – Sustainable mobility) and introducing interventions that generate energy from renewable sources (for example Component 14 – Hydrogen and Renewables and Component 9 - Water

Management). Component 8 – Forests aims to protect the country's forests, addressing climate change but also contributing to mitigation objectives.

The plan is ambitious in tackling the challenges of the business environment and improving the efficiency of the justice system (CSR 4 2019 and 2020). The reforms and investments introduced in Component 18 – Economic Justice and Business Environment, 19 – Digital Public Administration, 6 – Qualifications and Skills, and 16 – Enterprises 4.0 by aiming to reduce the administrative and regulatory burden on businesses and citizens and strengthen their proximity to public administration through the use of technology, represent significant steps towards increased efficiency. Component 18 introduces reforms to modernise the justice system through the digitalisation of procedures and takes steps to reduce the backlog of pending cases (one of the highest in the EU at present). In parallel, this component also introduces a reform aimed at streamlining licensing procedures and reducing the administrative burden for businesses. Component 19 focuses on providing a better public service, using technology and strengthening proximity for simpler, effective and efficient access for citizens and businesses, reducing context costs. The strengthening of digital public services is taken as the stepping stone in improving the functions of the State and its relationship with economic actors, which is an essential condition for creating an environment conducive to the promotion of competitiveness, either by reducing perceptions or by enhancing the predictability, transparency, speed and efficiency of processes. The plan also introduces a reform to reduce restrictions on regulated professions (RE-r14) under Component 6, which, if properly implemented, could largely address the recommendation in CSR 4 of 2019 to reduce restrictions in highly regulated professions. The actual impact on professional services markets will depend on the list of professions which will eventually remain subject to high regulation for constitutional legal or other reasons and on the details surrounding the actual implementation of the reform. Given the degree of uncertainty, an ex-post evaluation should be timely carried out. Component 16 also includes important measures for helping SMEs to strengthen their digital capacities/integration, and to provide tailored support for specific industrial sectors. It should also support the creation of a national Test Beds Network to create the conditions for businesses to develop and test new products and services using advanced facilities.

The Portuguese recovery and resilience plan makes a limited contribution towards addressing the recommendation to invest in railways and port infrastructure and does not address the recommendation on investments in energy interconnections (CSR 3 2019). The plan provides for robust investments in urban transport, but it does not cover railways infrastructure nor investments in ports (with the exception of improvements in the port infrastructure planned under Component 10 – Sea). However, these investments are part of the medium-term strategy *Portugal 2030* and will likely be financed outside the recovery and resilience plan using other sources of EU and national funding. The plan does not include investments to extend energy interconnections, taking into account regional disparities. However, these investments are planned outside the recovery and resilience plan, with financing from other EU instruments, including the Connecting Europe Facility.

The Portuguese economy faces a number of structural challenges: it suffers from low investment, low productivity growth and low levels of qualification among its population, all of them substantially below the EU average. Portugal's economic structure remains anchored in traditional services and largely low- or medium-low-tech manufacturing. Before the onset of the crisis, Portugal's economy was catching up, growing above the EU average with unemployment declining. Its economy contracted sharply in 2020 due to the COVID-19 pandemic, with a particularly strong impact on the country's large hospitality sector. Portugal's GDP is estimated to have fallen by 7.6% in 2020 but is expected to rebound by 3.9% in 2021. Youth unemployment in particular remains an issue, with more than a fifth of people aged 15-24 unemployed in 2020[25] and seeing an important increase as a result of the pandemic.

The COVID-19 crisis has reinforced existing social challenges, such as regional inequality of opportunity, poverty, social exclusion and housing affordability. In terms of regional inequality, the social and economic impact may be even bigger in the Autonomous Regions of Madeira and Azores, with reduced mobility and few alternative sources of employment. Portugal's social transfer system has struggled to reduce poverty effectively, with some 21.6% of the population still at risk of poverty or social exclusion in 2019. While this number has steadily fallen in recent years, specific groups remain at risk, such as employees with short term contracts, residents in rural areas, and children at risk of poverty.

Overall, the plan aims to comprehensively address the economic and social challenges in the country, which run throughout the breadth of the components. For example, it aims to address issues of social and territorial cohesion through for instance the provision of lifelong health services; housing policy; strengthening social responses to older people within the drive to deinstitutionalise care; provision of childcare and addressing child poverty; targeting people with disabilities and people living in poverty and exclusion in metropolitan areas; and, the upgrading of the skills and competences. The decarbonisation of public transport, while increasing its supply, should also enhance the mobility of metropolitan populations, having a particularly positive effect on women, who are more dependent on public transport; improving accessibility to social and other services with a positive effect on quality of life, work-life balance and labour market participation. The overall set of investments and reforms is also expected to address inequalities, notably by especially focusing on vulnerable groups.

Low skills and qualifications are another central constraint of the Portuguese economy. The plan aims to address this through measures to increase the skilled workforce and by promoting actions to support lifelong learning, reskilling and upskilling of the adult work force. This goes hand in hand with a focus on digital skills across the population, including training of civil servants. This can help to reduce labour market segmentation, raise employment quality and improve wages, and thus to strengthen domestic consumption patterns. It can also help to improve the productivity of businesses and the economy globally. In this vein, measures to create affordable student accommodation can also enhance equal access to higher education.

[25] Social scoreboard indicators - European Pillar of Social Rights - Eurostat (europa.eu).

The measures in the plan could help to tackle the economic and social challenges described above that have long been part of the recommendations addressed to Portugal by the Council. They could remove barriers to growth, thereby contributing to raise productivity and create jobs. In addition, included measures such as to decarbonise industry, to boost sustainable mobility and to increase the energy efficiency in buildings can help to make this growth sustainable in the long run. In particular, the focus on research and innovation is expected to help upgrade the Portuguese economy to higher value added sectors. This would have a significant impact on the value of exports and the quality of employment. In addition, the focus of the research on green agendas, on sustainable agriculture and the economy of the sea could significantly contribute to the climate transition, empowering Portugal research and innovation ecosystem in the areas of the twin transition.

Conclusion on the assessment of criterion 2.2 of Annex V to the RRF Regulation

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

Table 5: Mapping of country challenges identified in 2019-20 country-specific recommendations and Portugal's recovery and resilience plan components

Country challenges (as identified in Section 2)	Associated CSR (2019-2020) and European Semester recommendations	Component 1- National Health Service	Component 2 - Housing	Component 3- Social Responses	Component 4- Culture	Component 5-Investment and Innovation	Component 6- Qualification and Skills	Component 7- Infrastructure	Component 8- Forests	Component 9-Water Management	Component 10- Sea	Component 11-Decarbonisation of Industry	Component 12- Bioeconomy	Component 13- Energy Efficiency in Buildings	Component 14-Hydrogen and Renewables	Component 15-Sustainable Mobility	Component 16- Enterprises 4.0	Component 17- Quality and Sustainability of Public Finances	Component 18-Economic Justice and Business Environment	Component 19 Digital Public Administration	Component 20- Digital School
Fiscal policy & fiscal governance	2019.1.1; 2020.1.1; 2020.3.2																	●			
Long-term sustainability of public finances	2019.1.2; 2019.1.3; 2020.1.2	●							○									●		○	

Sustainability of state-owned enterprises	2019.1.3	●																●			
Strengthen the resilience and accessibility of the health and long-term care systems	2019.1.2; 2020.1.2; 2020.1.3	●		●																	
Employment protection legislation & framework for labour contracts	2019.2.1; 2020.2.1; 2020.2.2						○														
Effectiveness and adequacy of social protection	2019.2.4; 2020 2.2		●	●																	
Education, skills and life-long learning, particularly in science and information technology/digital	2019.2.2; 2019.2.3; 2020.2.3; 2020.2.4		○	○	○		●				○						○			○	●
Research and innovation	2019.3.1; 2020.3.6					●	○				○	○	○								
Focus investment on the digital transition	2019.2.3; 2020 2.3; 2020 2.4; 2020.3.4	●		○	○	●	○	○	○								●	●	○	●	●
Focus investment on the green transition, in particular clean and efficient production and use of energy	2020.3.4; 2019.3.3	○	○	○		●		○	●	○	●	●	●	●	●	●					
Rail and port infrastructures	2019.3.2; 2020.3.5										○										
Energy interconnections	2019.3.3																				
Front-load mature public investment projects; promote private investment	2020.3.2; 2020.3.3					●															
Address private indebtedness and improve the insolvency framework	2019.4.1																		●		
Improve competition and the regulatory framework	2019.4.2; 2019.4.3						●												○	○	
Improve the business environment, including by boosting the efficiency of tax and administrative courts	2019.4.2; 2019.4.3; 2019 4.4; 2020.4.1																		●	○	

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

The plan aims to accelerate the economic recovery in Portugal and to improve long-term growth prospects through investments and reforms. The main objectives of the plan are to improve Portugal's growth potential, job creation, and economic, social and institutional resilience that should ultimately reduce the country's vulnerability to shocks. The plan also aims to contribute to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and to mitigate the economic and social impact of the COVID-19 crisis, thereby enhancing the economic, social and territorial cohesion and convergence within the Union. The plan is also in line with the 2020 new industrial strategy.[26]

Fostering economic growth and jobs

The plan is designed to support economic growth and job creation through investments and reforms that are structured in nine main areas in the impact assessment presented by the Portuguese authorities. The impact of each area on growth and employment is assessed in the short term (two years), medium term (5 years), and long term (both over 10 and 20 years). The main contributions to both economic growth and employment, as presented by the authorities, are expected to come from investments and reforms in innovation, education (including digital skills and vocational training), decarbonisation of the industry, and housing. In the long term, these four areas are projected to generate more than 85% of the overall contribution to the increase in the growth potential and nearly the whole contribution to the increase in employment. Investments and reforms in innovation are expected to have the biggest impact on growth while those in housing are expected to have the biggest impact on employment. Other main areas of intervention include health care, culture, transport infrastructure, forestry and water management, quality and suitability of the state administration (including financial management, judicial services and digitalisation of public services). While the interventions in some of these areas are estimated to have a relatively small impact on growth and employment, they are expected to play a substantial role on mitigating the social impact of the COVID-19 crisis. This is notably the case in health care and culture.

Investments and policies related to innovation are largely aimed at enhancing digitalisation, capitalisation of enterprises, increasing the export base and reindustrialisation. This translates into a reduction in the financing costs of R&D intensive companies, permanently increasing the human resources and the physical capital allocated to these activities. Key policy objectives include knowledge and technology transfers to businesses, diversification of product and services, and reaching R&D investments of 3% of GDP by 2030. Financial instruments for the capitalisation of companies and the establishment of *Banco Português de Fomento* are also expected to contribute by improving access to finance and the financing conditions for viable companies.

Investments and policies related to education and training include structural measures for improving the skill level of the population, with a focus on digital skills. The vocational education reform includes the modernisation of vocational education institutions and digital schools with a permanent impact on skills.

Investments and policies to decarbonise industry are aimed at improving its energy efficiency and reducing the import content of the Portuguese economy. This should ultimately improve the country’s competitiveness and growth potential and should also help to meet climate goals. Measures in this area include investments in the development of renewable hydrogen, sustainable mobility and the energy efficiency of buildings. Apart from the

[26] See European Commission, Updating the 2020 New Industrial Strategy, COM(2021) 350 final, 05.05.2021.

quantitative gains affecting GDP growth and employment, it is assumed that measures in this area should also contribute to substantial benefits in the form of positive externalities that should not be fully captured in the official GDP statistics.

Investments and policies related to housing are designed to increase spending in social and affordable housing construction and are expected to have a significant impact on growth and employment in the short and medium term. Over the longer term, the impact of these measures should weaken but they are nevertheless expected to have permanent positive effects on a large set of indicators, by reducing inequalities and improving living conditions, human dignity, education and the labour market.

All investments in the plan financed through the RRF are expected to be fully additional to the baseline without the RRF. According to the data presented in the plan, the baseline of growth enhancing public expenditures not financed by the RRF over the period of 2021-2026 is slightly above the average level in the three-year period before the pandemic (2017-2019). The projected RRF-financed growth enhancing expenditure is estimated at 1% of GDP in 2021-2026. The plan is expected to substantially contribute to the government's capacity to support the economy, as public investment has been subdued for a prolonged period. Public investment reached an average of about 2% of GDP in 2017-2019, substantially below the EU average. Importantly, public investment in Portugal has been below the consumption of public fixed capital since 2012, translating into continuously negative net public investment.

The plan includes estimates for the impact of the RRF-financed investments and the reforms accompanying them on GDP over the short-, medium and long run. According to the estimates, these will result in an increase in GDP, relative to a scenario without the RRF, in the tune of 1.4% after a period of 2 years, 3.5% after 5 years, 2.2% after 10 years, and 3.1% after 20 years. The corresponding impact on employment is estimated at 0.7%, 1.4%, 0.6% and 0.8%, respectively. The estimates in the plan are broadly in line with the Commission's stylised QUEST simulations (see Box 2) in the short term, whereas the Commission simulations show a lower impact in the medium and long term. The difference with the estimates included in the plan can in particular be explained by the fact that the stylised QUEST simulations do not take into account structural reforms, which can have a significant impact on growth, in particular in the long term.

Box 2: Stylised NGEU impact simulations with QUEST – Portugal

Model simulations conducted by the Commission using the QUEST model show that the economic impact of the NGEU in Portugal could lead to an increase of GDP of between 1.5% and 2.4% by 2026.[1] **After 20 years, GDP could be 0.9% higher. Spillovers account for an important part of such impact.** According to these simulations, this would translate into up to 50,000 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 a lower productivity of NGEU funds, it would still lead to a significant impact (line 3).[2]

Table: 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	1.1	1.9	1.9	2.0	2.2	2.4	1.9	1.4	1.5	1.5	0.9
of which spillover	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.3	0.3	0.2	0.1
Low productivity	0.9	1.4	1.4	1.3	1.4	1.5	0.9	0.4	0.5	0.6	0.4

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 Portuguese GDP by up to 10% in 20 years' time, in line with findings for the EU average.[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 Portugal's recovery and resilience plan.**

[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.

Strengthening social cohesion

The reforms and investments in vocational education and training and adult learning (AL) are expected to address the persistent and significant skills gaps. The Portuguese population is characterised by low levels of educational attainment with 44.5% of individuals having completed only lower secondary education in 2020 versus the 25.0% EU average and a considerable digital skills deficit with 48% of the population lacking basic digital skills in 2019 versus a 44% EU average. To revert this situation, the recovery and resilience plan contains an important component on Qualifications and Skills (Component 6) that is expected to deliver structural and enduring changes to the Portuguese education and VET systems. Important reforms and investments are also foreseen in relation to business, public administration and the maritime economy sectors to further reduce skills deficits in these areas. The strengthened policy dimension and strategic coordination of VET skills and qualifications resulting from the recovery and resilience plan should enhance Portugal's effectiveness and efficiency in reform implementation. Reinforcing the sectoral training network of the VET agency (IEFP) establishing closer links between education, training institutions and other stakeholders should also help lay the foundations for new and improved joint working methods and help develop a cooperation culture over the long term. Enlarging and improving the offer for AL through the development of a National Adult Literacy Plan to complement the national VET Programme QUALIFICA is expected to ensure a harmonised delivery of interventions. The reforms and investments in the recovery and resilience plan are coherent with the main relevant EU policy agendas in the field of skills, VET and AL and should help deliver on the related principles of the European Pillar of Social Rights. Finally, these actions are also expected to support Youth Guarantee schemes, notably by increasing the skills and qualifications of young people and ultimately improving the creation of qualified employment.

The plan is expected to improve the overall employment status of the population (with a special focus on youth) and to address gender inequalities for a more inclusive and resilient labour market. The proposed Agenda to Promote Decent Work presented in the recovery and resilience plan has the potential to bring substantial structural changes to address long standing challenges such as labour market segmentation (17.4% share of temporary contracts in Portugal compared to a 12.5% EU average in 2020). The high share of youth unemployment (22.6% compared with 16.8% for the EU in 2020) should also be reduced as a result of these measures and accompanying investments through the shared management Funds 2021-27. By providing incentives for permanent hiring through the recovery and resilience plan, Portugal seeks to restore confidence among employers to resume recruitments and kick start job creation whilst also enabling more stable career prospects for youth. The increased caseload affecting the Public Employment Services as a result of the pandemic is expected to require reinforced investments in skills intelligence and matching systems that is currently not foreseen in the recovery and resilience plan. The introduction of mechanisms to promote collective bargaining and the regular review of the minimum wage should further complete and consolidate the measures agreed through the 2018 national tripartite agreement. Further discussions and negotiations with relevant stakeholders and social partners are foreseen in order to regulate new forms of work, particularly platform work and social protection coverage. Considerable attention is expected to also be devoted to fighting inequalities between women and men and notably by introducing structural measures to combat gender stereotypes limiting the educational and professional choices of women and girls.

Investing in digital schooling through a dedicated component in the recovery and resilience plan is expected to build resilience of the country's schooling system. The measures foreseen should bring about important changes to the education system. Mainstreaming the digital dimension throughout all curricula and ensuring digital development programmes for pupils and teachers alike are expected to help transform and modernise the national education system over the coming years. This reform is expected to ensure equal access to education, following the unprecedented disruption caused by the COVID-19 crisis. Building on recent ESF investments through the Corona Response Investment Initiative (CRII and CRII+) implemented during the pandemic, socially and economically disadvantaged students facing greater difficulties in terms of access to digital learning are set to constitute the main target group of this reform. This approach seeks to reduce inequalities and strengthen social cohesion whilst also ensuring intergenerational solidarity and investment in the future generations through more cohesive policies.

Reducing vulnerability and increasing resilience

In February 2020, over the previous annual cycle of surveillance under the Macroeconomic Imbalances Procedure, the Commission identified imbalances in Portugal. These imbalances related in particular to the large stock of net external liabilities, private sector and government debt as well as a high share of non-performing loans in a context of low productivity growth. The Commission's 2021 in-depth review of 2 June 2021 confirmed these imbalances, also highlighting that the economic shock caused by the COVID-19 pandemic resulted in a substantial increase in the country's private and public debt ratios in 2020. The external position also weakened as a result of Portugal's high exposure to tourism. With the projected economic recovery in 2021, Portugal is projected to return on a positive track of adjusting imbalances, but the evolution of the pandemic, the strength of the recovery, and possible structural implications of the crisis are all still surrounded by high uncertainty.

The Portuguese plan includes an ambitious package of reforms and investments to address the country's vulnerabilities to shocks and to strengthen its economic, institutional and social resilience. The proposed measures target the root causes of the challenges identified and could help to boost the country's competitiveness and productivity by improving the business environment, enhancing labour skills and participation and promoting R&D, innovation and digitalisation. Furthermore, several measures in the plan are expected to increase institutional capacity and improve the resilience of social policies, including measures to make the health sector more sustainable and improve access to quality health-care and to tackle poverty and social exclusion.

Public finances (and taxation) and digital public services

An effective and efficient public administration provides a solid platform for the development of businesses and ensures quality services to citizens and businesses. This, in turn, attracts the investments needed to support *the country's growth and economic* development.

Component 17 – Quality and Sustainability of Public Finances includes a reform and investments to enhance public financial management and thereby strengthen the quality and sustainability of public finances. To that end, the component covers initiatives that should contribute to fully and effectively implementing the 2015 Budgetary Framework Law, including the introduction of programme budgeting and of ancillary mechanisms to support expenditure control, cost efficiency and appropriate budgeting. It also includes flanking measures for greater efficiency, such as improvements to centralised procurement and spending reviews, which are planned to be integrated in the regular budgetary process and subject to systematic *ex-post* evaluations. The framework conditions for the sustainability of state-owned enterprises are to be strengthened through more timely, transparent and comprehensive monitoring, as well as better governance, with management becoming more accountable and performance-oriented. Furthermore, this component also includes measures to modernise public services with the use of digital technologies, such as investments in the information systems of the Tax and Customs Authority for rural property taxation, as well as in the digital transition of Social Security services.

The digital transition of the country's public administration is the most efficient way to provide faster, cheaper and better services. It has the potential to result in a more user friendly, accessible administration and to reduce the risks of corruption. Implementation of the 'digital by definition' and once-only principles in Portuguese public administration is at the core of Component 19 – Digital Public Administration. The necessary upskilling of the workforce is also part of it.

Labour market, education and skills

Despite the significant progress observed in the past decade, Portugal still faces significant skill gaps. Reforms and investments included in Component 6 – Qualifications and Skills have the potential to bring about structural and enduring changes to the Portuguese education and training systems. By strengthening the political and strategic coordination of all levels of VET qualifications, Portugal is increasing the effectiveness and efficiency of policy implementation. Moreover, strengthening the sectoral training network of the Public Employment Services (IEFP) protocol management centres and establishing closer links between education, training institutions and other stakeholders, including the business fabric, should also have positive long-term effects. Strengthening the links between science, higher education and key employment activities, at national and regional levels would be a welcome change, given that knowledge is evolving at an unprecedented pace. In addition, the Agenda to Promote Decent Work also has the potential to bring relevant structural changes, notably by streamlining active employment policy programmes geared towards permanent job creation. Finally, the reform Combating inequalities between women and men (RE-r18) could introduce positive and long-term changes, notably by acting structurally to combat gender stereotypes that limit the educational and professional choices of girls and women, with an impact on income and professional careers.

Furthermore, the proposed reform and investments under Component 20 – Digital School have the potential to implement structural and enduring changes to the deployment of education policies. By promoting the digitalisation of schools, the measures should help to bring significant changes to the education system, making the digital dimension a mainstream part of all the curricula and modernising the system itself. This is particularly important in a context where knowledge is evolving at an unprecedented pace, and where the challenges facing current and future professionals are increasingly complex.

Social policies and health care

Portugal has been facing challenging demographic and socio-economic challenges, which have been amplified by the COVID-19 pandemic. The trend of demographic ageing as a result of low birth rates, rising longevity and negative migration balances observed until 2016 continues, with an increase in the median age of the resident population from 41.7 to 45.5 years between 2011 and 2020. In 2020, the proportion of the population aged 65 and over in Portugal stood at 22.1%, above the EU average of 20.6%, having increased by 3.4 percentage points over the last decade. Furthermore, changes in the labour market and in working conditions in general have significantly affected the behaviour of women and men and, hence, the family structure, resulting in the decline of birth and fertility rates.

This demographic reality is compounded by continuous and acute situations of poverty and social exclusion over the past years. Despite improvement over recent years, in 2019, the percentage of people at risk of poverty or social exclusion in Portugal remains above the EU average. Furthermore, people with disabilities are on average more exposed to the risk of poverty and social exclusion, in particular as regards necessary health care, quality education and access to employment. In 2019, the percentage of people with a disability who were exposed to the risk of poverty or social exclusion was almost 10 percentage points above that of people without any activity limitation.

Managing the challenges associated with increased longevity, declining fertility rates, poverty and social exclusion requires, first and foremost, the upgrade and expansion of the social services network. To this end, the measures proposed under Component 3 – Social Responses are expected to significantly improve the resilience, accessibility and effectiveness of the social protection and care sector. The reforms put forward are conceived to be in place for the medium to long-term and are well aligned with the main reference agendas and strategies in the Charter of Fundamental Rights and the European Strategy for the Rights of Persons with Disabilities 2021-2030. Other measures such as the first National Strategy for Combating Poverty should also frame future actions and investments in a coherent and comprehensive manner.

The Portuguese plan is also taking action to address housing affordability. The continuous increase in house prices over the last years has increased the financial pressure on households and created issues of affordability, especially for the most vulnerable. In this context, Component 2 – Housing aims to ensure that public housing policy addresses structural, permanent or temporary shortages by addressing market failures to provide access to housing both in mainland Portugal and in the Autonomous Regions of Azores and Madeira. One of these responses is to increase the public housing stock, which only addresses the needs of the most deprived and vulnerable social groups, and still insufficiently. The reform of public housing policies and related investments will require lasting coordination between central and local levels of government. This approach can contribute to structural/long-term changes through a new governance model, with clear roles for the different actors involved at central and local levels, applying the necessary methodologies for assessing the future social housing needs of the population.

The Portuguese health system continues to face major challenges linked to changing health needs, rising demand, and gaps in access to health care. Component 1 – National Health Service aims to strengthen the capacity of Portugal's National Health Service to respond to and manage long-standing challenges that have been exacerbated by the COVID-19 pandemic. Such challenges include the need to bridge access gaps in the National Health Service, including in primary health care, mental health and long-term care services. The component also includes measures to upgrade the governance model of public hospitals, as a means of addressing the root causes of arrears and promoting efficiency.

Access to finance and capital markets

Despite the significant deleveraging in recent years, Portuguese companies continue to face a structural problem of undercapitalisation. Against this background, the persistent difficulty in accessing finance represents a case of market failure that urgently needs repair, as the damaging economic and social effects of the COVID-19 pandemic have heightened the associated costs.

With the threefold objective of significantly reducing complexity in the supply of corporate finance products, fostering a continued effort of financial empowerment and enabling projects and firms of national strategic interest, Component 5 – Investment and Innovation includes a set of reforms and investments that should make it easier for firms to access finance, promote their capitalisation and help to improve the functioning of the Portuguese capital market.

R&D and innovation

Portugal's R&D intensity remains below the EU average. **Component 5 – Investment and Innovation aims to improve academia-business linkages and make R&D investments more efficient and impactful.** It focuses on increasing the competitiveness and resilience of the Portuguese economy based on R&D, innovation, diversification and specialisation of the productive structure, exploiting the actual potential for competitive affirmation of established industrial sectors and emerging areas, contributing to the twin transition. Investment choices under the Mobilising Agendas/Alliances for Business Innovation and for Green Reindustrialisation (RE-C05-i01.01 and RE-C05-i01.02) are expected to be aligned with the research and innovation priorities of the national smart specialisation strategy to ensure a more effective and efficient use of funds[27]. In particular, this component should effectively increase R&D investment and the country's scientific and technological performance, reduce CO2 emissions and indirectly support the upgrade of the Portuguese economy towards higher value-added activities. Furthermore, it is expected to ensure stability and predictability for R&I policies and funding via a multiannual programming framework for public R&D investment. In addition, research reforms and investments also focus on specific sectors, such as agriculture (RE-C05-i03 and RE-C05-i05-RAA), bioeconomy (Component 12) and the blue economy (Component 10).

[27] For an assessment of the effectiveness of the R&D and innovation funds under Smart Specialisation framework see: Marques Santos, A.; Edwards, J. and Neto, P. (2021). Smart Specialisation Strategies and Regional Productivity: A preliminary assessment in Portugal, EUR 30623 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-31375-5, doi:10.2760/002330, JRC12438

Infrastructure

Transport infrastructure investments have a positive impact on economic growth, create wealth and jobs and increase trade, geographical accessibility and the mobility of people. To this end, it has to be planned in a way that maximises the positive impact on economic growth and minimises the negative impact on the environment. In 2019, transportation and storage activities in Portugal represented an important part of its economy, with a 4.9% value added share in GDP and a 3.8% employment share.

Component 7 – Infrastructure aims to address the challenge of improving resilience and territorial cohesion, reduce context costs for businesses in inland regions, and advance the green transition in the transport sector. The measures proposed under this component should contribute to electric mobility, create a new generation of business reception areas and improve competitiveness. They include the extension of the electric vehicle charging network, a modernisation programme of business reception areas as well as road infrastructure investments to address missing links, provide cross-border connections, improve the accessibility of business reception areas and extend the road network on the Autonomous Region of Azores.

Administrative simplification, justice system and business environment

The Portuguese justice system continues to make progress to become more efficient, continuing a path initiated in recent years. Yet, the time needed to obtain a final decision in administrative and tax litigation and the length of insolvency procedures remains a concern. These shortcomings are expected to be exacerbated by the pandemic and the resulting recession, which should most probably result in a higher number of companies and households facing difficulties and, hence, a higher number of incoming court cases. In addition, despite a significant effort to simplify administrative procedures in recent years, the costs and time required to obtain business licences in some sectors are among the more persistent obstacles to economic activity.

An effective justice system is an important structural element for an investment and business-friendly environment. To this end, the main objectives of Component 18 – Economic Justice and Business Environment are to strengthen and make more efficient the relations of citizens and businesses with the State and to reduce the burdens and complexities that inhibit business activity and thus have an impact on productivity. The measures envisaged are expected to reduce the administrative burden and costs to firms, reduce disposition times, improve access to justice, and increase the effectiveness and the resilience of the justice system. In parallel, this component also addresses shortcomings in sectorial licencing requirements, by envisaging their simplification.

Gender equality and equal opportunities for all

Portugal's recovery and resilience plan contains measures to address the challenges of gender equality and equal opportunities for all. These include reforms to combat the gender pay gap and occupational segregation as well as measures to promote work-life balance and attracting young women into STEAM studies. Gender equality considerations are also integrated in other measures of the plan. This is the case for instance for housing measures, with a particular focus on victims of domestic violence, and for digital transformation measures, with a focus on combating gender stereotypes and ensuring gender-balanced participation in digital training. The part of the plan dealing with social responses includes a national strategy for persons with disabilities. The situation of vulnerable groups in general is addressed in several parts of the plan, such as the parts dealing with health, housing and skills. However, the plan's expected contribution to equal opportunities for specific groups, such as older persons or persons with a minority ethnic or racial background, could have been better specified.

Cohesion and convergence

The Portuguese plan aims to reduce territorial and economic disparities mainly through the Resilience dimension of the plan, which is strongly intertwined with social aspects.

Component 1 – National Health Service has a strong territorial dimension, Component 2 – Social Housing, Component 3 – Social Responses and Component 4 – Culture in particular, all have a relevant territorial and local dimension, aiming at strengthening essential services for citizens and ensuring a larger coverage of the territory. Primary, continuous and palliative health care services are set to be organised at the local level. Social housing at affordable rents are expected to largely be provided through the implementation of municipal housing programmes. Moreover, specific investments are planned in the Autonomous Regions of Azores and Madeira and in the disadvantaged Metropolitan areas of Lisbon and Porto. Additional territorial aspects are covered by investments in water and forest management, fire prevention, road infrastructure and missing links in particular in the rural areas in the regions of Alentejo, Algarve, Madeira and Azores.

The Portuguese plan includes an ambitious package of reforms and investments to boost productivity. Several components target some of the root causes that have weakened Portugal's external competitiveness and slowed its convergence path towards the EU average in terms of GDP per capita in the last decade[28]. In particular, components 4 to 7, 10 and a majority of components of the climate and digital pillars could help to boost the country's competitiveness and productivity towards the climate and digital transition, by promoting R&D and innovation, enhancing labour skills and strengthening the institutional capacity of the public administration.

Conclusion on the assessment of criterion 2.3 of Annex V to the RRF Regulation

Taking into consideration all reforms and investments envisaged by Portugal, its recovery and resilience plan is expected to effectively contribute to strengthen the growth potential, job creation, and economic, social and institutional resilience of the Member State, to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and to mitigate the economic and social impact of the COVID-19 crisis, thereby enhancing 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.

[28] Portugal's per capita income in purchasing power standards (PPS) floated around 77% and 78% of the EU average in the last decade.

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

Social Scoreboard for PORTUGAL	
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)
	At risk of poverty or social exclusion (in %) (2019)
Dynamic labour markets and fair working conditions	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)
	Net earnings of a full-time single worker earning AW (2019)
Social protection and inclusion	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. Members 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.

The Social Scoreboard supporting the European Pillar of Social Rights points to a number of employment and social policy improvements in Portugal, although some challenges remain. Portugal's economy had been performing strongly up until the end of February 2020 (surpassing the 2020 target of a 75% employment rate in both 2018 and 2019), but the COVID-19 crisis halted these positive developments. Job losses resulting from the pandemic translated into an increase in the unemployment rate, though not as acute as initially forecasted (peaking at 8% in Q3-2020 and decreasing to 7.1% in Q4-2020). Portugal ranks better than average in terms of the gender employment gap and long-term unemployment rate, as well as early school leaving rate. It is among the best performers in providing access to childcare services. Nevertheless, children and the elderly remain among the most vulnerable groups, and in terms of territorial distribution, the Autonomous Regions continue to experience the highest risks of poverty.

The recent pandemic outbreak is further aggravating the employment situation for young people and increasing the need for investment in skills. Young people have been affected more than other cohorts, with youth unemployment peaking at 26.8% in Q3-2020 and having slightly decreased to 24.0% in Q4-2020. Skills levels for the workforce and the population at large remain a challenge, including digital skills that are key to the country's competitiveness.

While poverty gradually decreased in the run up to 2020, the pandemic is likely to reverse this trend. Net earnings of workers receiving the average wage remain below the EU average. This merits close attention, in particular for vulnerable groups with a view to a possible rise of in-work poverty, including among temporary workers. In 2019, the capacity of social transfers (other than pensions) to reduce poverty showed a slight improvement (+0.4pps year-on-year) but remained comparatively low (24.2% against 32.4% in the EU).

Portugal's recovery and resilience plan addresses numerous employment and social challenges. To foster equal opportunities and access to the labour market, the plan envisages a new reform of the vocational education and training system that aims to adapt the skills provision to the current and future needs of the labour market, together with a significant offer of adult learning opportunities. Further upskilling and reskilling measures for the business environment, public administration and formal education (teachers, non-teaching staff and pupils) focus particularly on the digital dimension. Additionally, a reform to address gender pay inequality and occupational segregation is planned. To improve labour market dynamics and working conditions, Portugal's proposed agenda to promote decent work includes measures to incentivise permanent employment (with a special focus on youth), sustainable minimum wage increases and social protection for new forms of work (such as platform work).

With more people likely to fall back on the basic safety nets due to the COVID-19 crisis, reforms on social protection and inclusion are important in providing much needed support, in synergy with ESF+ funding. The plan includes a multitude of social interventions, including a comprehensive approach on social and affordable housing, population ageing, long-term care, support to vulnerable groups, disadvantaged communities and territories, and social safety nets. It also covers social services, including measures to expand access to early childhood education and care and drive deinstitutionalisation, and establishes a new national disability strategy, as well as a national poverty strategy. Nevertheless, the plan lacks an overall framework for strengthening access to social services, as well as a comprehensive and ambitious reform of the social protection system that could improve the effectiveness of social benefits, including minimum income.

4.4. The principle of 'do no significant harm'

Portugal's recovery and resilience plan assesses compliance with the 'do no significant harm' (DNSH) principle. The assessment follows the methodology set out in the Commission's technical guidance on the application of 'do no significant harm' under the RRF Regulation (2021/C 58/01). It covers the six environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852, namely climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems. The environmental impact is assessed per reform or investment. Hence, the 32 reforms and 83 investments in Portugal's recovery and resilience plan translate into 115 'do no significant harm' assessments.

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

Where needed, the requirements of the DNSH assessment are enshrined in the design of a measure and specified in a milestone or target related to this measure. This ensures that the fulfilment of the respective milestones and targets can only be positively assessed once compliance with the DNSH principle is ensured. For instance, measure RE-C05-i06 – Capitalisation of enterprises and financial resilience/Banco Português de Fomento in Component 5 – Investment and Innovation includes the capitalisation of the National Promotional Bank. To ensure that only activities complying with the DNSH principle receive funding, Portugal is required to specify the investment policy for the bank, establishing a set of eligibility criteria in line with the RRF objectives, including compliance with the DNSH principle. The verification of the DNSH compliance of the investment policy is made binding through a milestone linked to the bank's capitalisation. A similar approach is followed for other broad funding schemes, such as in Component 11 – Decarbonisation of Industry, Component 12 – Bioeconomy and Component 16 – Enterprises 4.0.

Portugal's recovery and resilience plan puts a particular focus on energy-efficiency renovations (e.g. in Components 1, 2, 3, 6, 10, 11, 13 and 19). While these have a positive impact on emission reductions, they normally create significant amounts of construction waste. Portugal ensures no significant harm to the circular economy objective by detailing in the plan for each of the measures that at least 70% (by weight) of the non-hazardous construction and demolition waste generated on the construction sites are set to be prepared for reuse, recycling and other material recovery.

Another focus area in Portugal's recovery and resilience plan is digitalisation (e.g. Components 16 to 20). Particularly relevant from an environmental perspective is IT equipment, whose operation may cause significant greenhouse gas emissions. Significant harm to the climate change mitigation objective is avoided in Portugal's recovery and resilience plan through a commitment to the use of the best available technology of IT infrastructure. To this end, Portugal has confirmed that it will comply with the Ecodesign Directive for ICT equipment and that data centres will implement the relevant practices listed as 'expected practices' in the European Code of Conduct on Data Centre Energy Efficiency.

The plan also includes a number of regulatory reforms (e.g. Components 1, 8, 18) or measures related to education (Component 6) or culture (Component 4). The DNSH assessment has confirmed that their environmental impacts are rather negligible, ensuring that they do no significant harm to any of the six environmental objectives.

Particular attention is paid to measures whose impact on environmental objectives warrants close scrutiny. Component 7 – Infrastructure contains four measures that involve the construction or upgrade of road transport infrastructure (RE-C7-I2, I3, I4, I5). The DNSH assessment in Portugal's recovery and resilience plan follows closely the DNSH Guidance and in particular Example 4 – Road infrastructure in the Guidance. To avoid significant harm to the climate change mitigation and pollution prevention and control objectives, Portugal's recovery and resilience plan includes as a flanking measure investment RE-C7-I0 – Expansion of the electric vehicle charging network. It specifies that 15 000 publicly accessible electric vehicle charging stations should be available by the fourth quarter of 2025, which is monitored by two binding intermediate targets. This measure is expected to offset the additional emissions caused by the road infrastructure investments, avoiding significant harm to the climate change mitigation and pollution prevention and control objectives. Moreover, any condition resulting from the environmental impact assessment (EIA) needed for these projects is expected to be implemented.

Likewise, the water management measures in Component 9 – Water Management (I1, I2), which include the construction of a dam, irrigation schemes, a desalination plant and a water abstraction measure, imply taking specific precautions from a climate adaptation and environmental point of view. Portugal is committed to conduct full environmental impact assessments relevant to these measures, which is expected to assess the potential for significant harm and the scope for avoiding it, and to ensure compliance with EU environmental law, including the Water Framework Directive (2000/60/EC). This aims in particular to avoid significant impact on the relevant water bodies that would jeopardise or delay the objective of reaching good status or potential. It also aims to ensure that protected habitats and species directly dependent on the concerned water are not impacted negatively by the measures. The EIA for these measures is expected to also take into account projected impacts from climate change based on the best available science. Should the EIA suggest conditions through which significant harm can be avoided, Portugal undertakes to implement the recommended conditions and measures. The commitments are included in two milestones, ensuring no payment request linked to the fulfilment of these milestones can be approved without DNSH compliance.

Some components comprise horizontal schemes that promote a wide range of activities (e.g. Component 5 – Investment and Innovation and Component 11 – Decarbonisation of Industry). To ensure compliance with the 'do no significant harm' principle, the eligibility criteria for upcoming calls for projects is set to exclude harmful activities and require that only activities that comply with relevant EU and national environmental legislation can be selected.

Conclusion on the assessment of criterion 2.4 of Annex V to the RRF Regulation

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Portugal's recovery and resilience plan is expected to do 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

Portugal's recovery and resilience plan correctly follows the methodology for climate tracking set out in Annex VI to the RRF regulation by identifying intervention fields and corresponding coefficients for the calculation of support to the climate objectives, for each measure. It should be noted that:

- the proposed reform measures for the climate contribution do not have any associated cost in the recovery and resilience plan. In this context, the plan does not identify intervention fields for these measures, and they do not help to reach the climate target.
- the measures of the recovery and resilience plan often consist of several sub-measures – for these measures, the plan indicates an intervention field for each sub-measure and computes the climate contribution at sub-measure level.
- where relevant, milestones and targets include specifications that ensure that the requirements of an intervention field are met (for instance, where intervention field 025ter – Construction of new energy-efficient buildings is used, a milestone/target specifies that the buildings need to have a primary energy demand at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).
- the choice of intervention fields for the climate transition is well justified and reflects the nature, focus, objective or expected outcome of the investments.
- the recovery and resilience plan does not propose to increase the climate coefficients for any measure.

Measures supporting climate change objectives in Portugal's recovery and resilience plan account for EUR 6.291 billion, which represents 37.9% of the plan's total allocation.[29] Of the 20 components in the plan, 16 components include expenditure that contributes to the climate objectives

Table 6: Climate contribution and cost per component

Component	Cost (EUR million)	Climate contribution (EUR million)	Climate contribution (percentage of plan's total allocation)
C1 National Health Service	1 383	315	1.9%
C2 Housing	2 733	1 220	7.3%
C3 Social responses	833	211	1.3%
C4 Culture	243	60	0.4%
C5 Investment and innovation	2 914	521	3.1%
C6 Qualifications and skills	1 324	182	1.1%
C7 Infrastructure	690	91	0.5%
C8 Forests	615	615	3.7%
C9 Water management	390	157	0.9%
C10 Sea	252	110	0.7%
C11 Decarbonisation of industry	715	715	4.3%
C12 Bioeconomy	145	139	0.8%
C13 Energy efficiency in buildings	610	610	3.7%
C14 Hydrogen and renewables	370	370	2.2%
C15 Sustainable mobility	967	967	5.8%
C16 Enterprises 4.0	650		
C17 Quality of public finances	406		
C18 Economic justice and business environment	267		
C19 Digital public administration	578	9	0.1%
C20 Digital school	559		
Overall contribution		6 291	37.9%

Note: the plan's total allocation is EUR 16 606 294 284. This corresponds to the financial allocation after deduction of Portugal's proportional share of the expenses of Article 6(2) of Regulation (EU) 2021/241, calculated in accordance with the methodology of Article 11 of that Regulation, plus the loan support requested by Portugal under the Facility. The amount of the estimated total costs of the recovery and resilience plan is higher than the plan's total allocation.

Energy-efficiency interventions (in Components 1, 2, 3, 4, 6, 7, 10, 11, 13, and 19) account for a large part of the climate contribution. These are achieved through renovations of

[29] Table 8 in the Annex presents the detailed application of the climate tracking methodology for all measures and sub-measures with a climate contribution.

existing buildings, the construction of new energy-efficient buildings, or more energy efficient industrial processes. Measures or sub-measures tagged with corresponding intervention fields contribute EUR 3.233 billion to climate objectives. This corresponds to around half of the plan's total climate contribution. Where applicable, Portugal ensures through a milestone or target that the required level of energy-efficiency shall be achieved. It has also been ensured that the necessary budget is attributed to these measures to ensure that the energy-savings can actually be achieved.

Sustainable transport measures also provide a significant contribution to the climate objectives. Component 15 – Sustainable mobility is expected to contribute to reducing greenhouse gas and pollutant emissions from transport through metro expansions as well as new light rail and bus rapid transit systems in Lisbon and Porto. The purchase of zero-emission buses and related charging infrastructure contributes to modernising the public transport fleet. Capacitation measures for transport management authorities should ensure a long-term impact on transport planning and reinforce its contribution towards decarbonising the sector. Together with the purchase of zero emission (road) vehicles (C1 – National Health Service, Component 3 – Social Responses) and the roll-out of electric vehicles charging infrastructure (Component 7 – Infrastructure), measures towards sustainable transport account for EUR 1.061 billion of the climate contribution of Portugal's recovery and resilience plan. Notably this figure does not include the investment amount for the expansion of the electric vehicle recharging network (measure RE-C7-I0; EUR 360 million), which is part of the recovery and resilience plan but financed by non-RRF sources. This includes private financing, which, where necessary, is set to be backed by non-RRF public funding.

Measures for the adaptation to climate change and prevention (Components 7 to 10, and 12) support the Portuguese plan's climate ambition to a major extent. They consist of forest management and fire prevention (Component 7 – Infrastructure, Component 8 – Forests, Component 12 – Bioeconomy) and other climate adaptation measures (Component 10 – Sea). Together with broader water management measures in Component 9, they account for EUR 795 million of the plan's climate contribution.

Likewise, expenditure for research and innovation processes contribute to the climate target. These research activities and the technology transfer and cooperation between enterprises focuses specifically on the low carbon economy, resilience and adaptation to climate change (Components 5 and 12). This results, in addition to other socio-economic and environmental benefits, in an important climate contribution. These measures account for a climate contribution of EUR 619 million. Dispersed contributions also come from forest-related measures (Component 8), water management (Component 9), and measures related to the blue economy (Component 10).

The measures in Portugal's recovery and resilience plan effectively contribute to the green transition, including biodiversity, and to address the challenges resulting therefrom. The plan supports Portugal's decarbonisation and energy transition objectives, as set out in the National Energy and Climate Plan 2030 (NECP 2030). In the NECP 2030, Portugal commits to reducing GHG emissions (-45% to -55% compared to 2005), increasing energy efficiency (35%

reduction in primary energy consumption), and increasing renewable energy (47% renewables in gross final energy consumption). Objectives also include improved water management, risk prevention and preparedness to anticipate the adverse effects of climate change, such as floods, coastal erosion, droughts, heat waves and forest fires. The regional dimension of risk assessment and governance could be strengthened. Together with the NECP 2030, the Carbon Neutrality Roadmap 2050 (RNC 2050) ensures coherence between the energy and climate areas, as well as the interconnection with the green and energy transition dimension of the investments envisaged in the recovery and resilience plan.

Various components of the recovery and resilience plan contribute to the commitments made in the NECP 2030:

- **Several components improve the energy efficiency of the existing building stock (Components 1 to 4, 6, 7, 10, 13)**. The investments are expected to address the challenge of the rather low level of energy-efficiency renovations in Portugal, leading to a notable increase in energy-efficient building infrastructure. This should lead to lower levels of greenhouse gas emissions, improve living conditions and climate change adaptation.

- **Components 7 – Infrastructure and 14 – Hydrogen and Renewables include measures to promote the production of renewable energy and in particular renewable hydrogen and other renewable gases, to increase the production and storage capacity of energy produced from renewable sources, and to establish a local energy community**. These measures should accelerate the transition of the energy-sector, increase the already high share of renewables in Portugal, and help use the country's very favourable conditions to produce renewable hydrogen. Portugal intends to complement these investments through cohesion funding to expand energy interconnections.

- **Component 11 – Decarbonisation of Industry provides financial support to innovation projects in industries, targeting SMEs and large companies.** The support for low carbon processes and technologies, energy efficiency measures, the incorporation of renewable energy and storage, the development of decarbonisation roadmaps and capacity building initiatives are expected to help decarbonise industry.

- **Component 12 – Bioeconomy aims to promote the development of products from biological resources.** This is designed to strengthen the role of these high value-added products from biological resources as alternatives to fossil-based materials. The component contributes to the development of a national bio-based industry and environmentally friendly production processes, advancing the green transition of the economy.

- **Component 15 – Sustainable Mobility contains investments in public transport and a reform to capacitate public transport authorities.** The measures is expected to improve the public transport offer, leading to encouraging emissions reductions of the transport sector and help address the challenge of low air quality and traffic congestion in the major metropolitan areas of Lisbon and Porto. The deployment of electric vehicle charging stations are set to address to a large extent investment needs in charging infrastructure and make road transport more sustainable. Portugal has also declared its intention to expand the railway network with other EU funding sources.

- **Component 8 – Forests contributes to preventing and combating rural fires and improve the rural land management.** The measures promote greater resilience of national forest territories against forest fires and thus contribute to their increased importance for carbon sequestration. The measures proposed under this component are expected to address the fragmentation of land ownership in Portugal, enable sustainable land management, preserve biodiversity and reduce the risk of forest fires.

- **Component 9 – Water Management consists of water management measures that are set to mitigate water scarcity in Algarve, Alentejo and Madeira**. These regions are most at risk of drought. The measures reduce water losses in the urban and agricultural sectors, promote the use of treated wastewater, and ensure the security of drinking water supply. The component helps address Portugal's water management challenges.

- **Component 10 – Sea implements more resource and energy efficient solutions in the blue economy and the protection of the marine environment.** Investments aim at improving energy and environmental efficiency and support the financing of projects aimed at innovation, process modernisation, carbon footprint reduction and the circular economy of the fish industry and organisations. These measures are expected to promote a more decarbonised and sustainable sea economy.

These measures are expected to contribute to the green transition and environmental protection. Importantly, they also ensure a just transition by providing support to vulnerable groups of the population (e.g. in the case of building renovations, which are set to help to reduce energy poverty). The recovery and resilience plan supports Portugal in meeting the national energy and climate targets set out in the NECP 2030 and RNC 2050 and thus in achieving carbon neutrality in 2050.

The plan contains limited measures to enhance biodiversity. Components 8 – Forests and 10 – Sea are designed to promote biodiversity to some extent through measures on forest management and the sea economy. A broader approach on biodiversity conservation will be needed to address the challenges that Portugal is facing in this field, for instance related to the Natura 2000 network, including the marine environment. Portugal should consider addressing the environmental challenges and investment needs in these areas with the support of other EU funds.

Conclusion on the assessment of criterion 2.5 of Annex V to the RRF Regulation

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 related challenges and ensures that at least 37% of its total allocation contribute to the climate target. This would warrant a rating of A under criterion 2.5 of Annex V to the RRF Regulation.

4.6. Digital transition

Digital tagging

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

- the proposed reform measures relevant for the digital contribution do not have any associated cost in the plan. In this context, the plan does not identify intervention fields for them, and they do not help to reach the digital target
- the 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 digital tagging is computed at sub-measure level
- the choice of intervention fields for the digital transition is well-justified and reflects the nature, focus, objective or expected outcome of the investments included in the component
- the digital tagging applied by Portugal is conservative as there are a number of investments with a digital dimension that have not been tagged, although the plan describes their digital contribution. In these cases the digital contribution constitute a part of a larger measure and separate cost data have not been provided to compute the digital contribution[30]
- the plan does not propose to increase the digital coefficients for any measure

Overall, the plan's contribution toward the digital objectives amounts to 22.1% of the plan's allocation, and as such, the digital target of 20% is considered met. Table 7 presents the contribution toward the digital objective for each component.[31] The most important contribution relate to Component 6 – Qualification and Skills. Particularly prominent within this component is the measure to modernise the offer of the professional training institutes. In this measure, more than EUR 500 million are devoted to the purchase of digital and technical equipment to modernise the offer of technical schools and vocational education and training centres. Component 16 – Enterprises 4.0 is the second largest contributor to the digital objective with EUR 650 million. Other components that contribute significantly to the digital objective are

[30] This is the case for a number of component such as Component 9 – Water Management, Component 12 – Bioeconomy and Component 11 – Decarbonisation of Industry, in which there are digital related investments in monitoring systems, tracking devices, data platforms and data management tools. At the same time also Component 14 - Hydrogen and Renewables include investments in smart meters and smart grids that have not been tagged for digital contribution.

[31] Table 8 in Annex presents the detailed application of the digital tagging methodology for all measures and sub-measures with a digital contribution.

Components 20 – Digital school, Component 1 – National Health Service and the components on the modernisation of public administration (Components 17 to 19).

Table 7: Digital contribution and cost per component

Component	Cost (EUR million)	Digital contribution (EUR million)	Digital contribution (percentage of plan's total allocation)
C1 National Health Service	1 383	351	2.1%
C2 Housing	2 733	2	0.0%
C3 Social Responses	833	12	0.1%
C4 Culture	243	93	0.6%
C5 Investment and Innovation	2 914	54	0.3%
C6 Qualifications and Skills	1 324	666	4.0%
C7 Infrastructure	690	26	0.2%
C8 Forests	615	86	0.5%
C9 Water Management	390		
C10 Sea	252	1	0.0%
C11 Decarbonisation of Industry	715		
C12 Bioeconomy	145		
C13 Energy Efficiency in Buildings	610		
C14 Hydrogen and Renewables	370		
C15 Sustainable Mobility	967		
C16 Enterprises 4.0	650	650	3.9%
C17 Quality and Sustainability of Public Finances	406	406	2.4%
C18 Economic Justice and Business Environment	267	267	1.6%
C19 Digital Public Administration	578	502	3.0%
C20 Digital School	559	559	3.4%
Overall contribution		3 674	22.1%

Note: the plan's total allocation is EUR 16 606 294 284. This corresponds to the financial allocation after deduction of Portugal's proportional share of the expenses of Article 6(2) of Regulation (EU) 2021/241, calculated in accordance with the methodology of Article 11 of that Regulation, plus the loan support requested by Portugal under the Facility. The amount of the estimated total costs of the recovery and resilience plan is higher than the plan's total allocation.

Digital transition

The Portuguese recovery and resilience plan dedicates four components entirely to the digital transition. These four components are Component 16 – Enterprises 4.0, Component 20 – Digital School, Component 17 – Quality and Sustainability of Public Finances and Component 18 – Economic Justice and Business Environment. Component 19 – Digital Public Administration also contributes more than 90% of its resources to the digital transition. Overall, 14 out of 20 components contain some measures that contribute to the digital transition. This reflects Portugal's objective to support the digital transition and to address the related challenges with a broad, cross-cutting approach**.** The plan includes digital related reforms and investments in areas like professional qualifications and competences, modernisation of the health system, culture, forest preservation and protection, R&D, social responses and infrastructures. Other reforms and investments are in the areas of training programmes on digital skills and advanced technologies for the business sector, the digitalisation of the education system, modernisation of the public administration (including the justice system), support and coaching provided to firms so as to help them adopt advanced technologies, actions to dematerialise the business processes with e-invoices and actions to increase trust on the use of new technologies, connectivity investments in school and business areas.

The measures in the Portuguese plan contributing to the digital transition or helping to address the related challenges are aligned, at national level, with the Portugal 2030 strategy. They are also consistent with the broad lines of other documents of a strategic nature, namely the National Programme for Spatial Planning Policy (PNPOT), the National Energy and Climate Plan 2030 (NECP 2030), the National Investment Plan 2030 (PNI 2030), the Digital Transition Action Plan (Portugal Digital), the Internal Development Programme and the National Health Service (SNS) Response Improvement Plan. These measures are also aligned with various European initiatives like the EU digital strategy[32], the EU skills agenda, the European Pillar of Social Rights, the European Education Area and the digital education action plan. These measures are also aligned with the two flagships *Modernise* and *Reskilling and upskilling* included in the Commission's Annual Sustainable Growth Strategy (COM/2020/575).

For human capital and skills, the recovery and resilience plan includes significant investment to support primary and secondary education, lifelong education and employment with specific interventions for digital skills development. Under Component 20 – Digital School, a comprehensive strategy is planned for the digitalisation of education, in particular for primary and secondary schools, including an enhanced use of platforms and digital technologies for teaching purposes, the creation of the conditions for the educational, pedagogical and managerial innovation of the Portuguese education system. This means developing teachers' digital skills (with specific investments in Madeira and Azores, whereas training for teachers on the mainland, albeit part of the reform, is set to be supported by other complementary funding). It also means improving the digital skills of students and school staff, which is expected to be achieved by integrating digital technologies in the different curricular areas, modernising the curriculum, and providing the appropriate equipment. In particular, the equipment provided is set to consist of personal computers and tablets (more than 600 000) for more disadvantaged students and computers for teachers and school management, projectors, digital educational environments for class learning, and advanced laboratories for the development of digital skills and other advanced technologies, including educational robotics. Significant investments are set to also be devoted to school connectivity and the creation of digital educational resources and the digitalisation of the evaluation process. Component 20 –

[32] See in particular: 'Shaping Europe's Digital Future', COM(2020)67.

Digital School includes specific investments aimed at improving the connectivity of schools, including their internal network. Lastly, there are specific investments to raise enrolment rates in science, technology, engineering, the arts and mathematics (STEAM) courses, support Higher Education Institutions in the modernisation of their facilities and accommodate the expected increase in the number of students. All these measures will be essential in addressing the challenges Portugal faces with the development of digital skills, digital inclusion, the adoption of advanced technologies and ensuring access to quality education.

The recovery and resilience plan also includes significant investment for the digital skills of the adult population. Component 6 – Qualification and Skills includes investments for the modernisation of vocational education and training institutions, with a focus on equipping training institutions with advanced digital equipment and technologies. In addition, there are specific investments to support digital skills for adults. These investments are central to modernising the vocational education and training infrastructure and renewing its course offering to address the impact of the pandemic and the impact of societal and technological changes. The investments contribute to the digital transition and help to address the related challenges.

Other investments relevant for the development of human capital and for the specific development of digital skills are also included in sector-specific initiatives. The recovery and resilience plan includes significant measures to train the workforce (Component 16) in basic and more advanced digital skills (more than 800 000 workers) with both a universal approach using online tools (for basic digital skills) to more tailored face-to-face training with a sectorial focus. Specific training on digital skills for the workforce are also envisaged in the investments targeting the public administration (Components 18 and 19), and the sea sector (Component 10).

The plan's measures on human capital help to improve the digital literacy of the population, increase the resilience of the education and lifelong training systems and improve social and territorial cohesion, with an expected long-lasting impact on society and the economy. In 2019 Portugal had values below European averages in terms of daily use of the internet (65%), use of online public services (41%) and ICT specialists in the labour market (2.4%) (Eurostat data/Digital Skills Observatory). It set ambitious targets for these indicators to be reached by 2025 (80%, 75% and 5% respectively). Among ICT specialists in the labour market, women accounted for 18.3% and men for 81.7% (Eurostat data/Digital Skills Observatory). Portugal has presented an ambitious and comprehensive package of reforms and investments in human capital and digital skills that are expected to address these challenges and produce long-lasting effects. The plan is also expected to increase the share of STEM students and raise the share of students enrolled in science and digital fields. The upskilling and reskilling opportunities that are provided are also expected to meet the growing demand for the skills needed for the digital transition

The recovery and resilience plan includes significant investments in the digitalisation of businesses, with a full component dedicated to supporting firms in the digital transition. Component 16 (Enterprises 4.0) includes significant investments in the following dimensions:

- Modernise the business model of companies as well as their production processes, including the dematerialisation of workflows (e-invoices),
- Create new digital marketing channels for products and services (e-commerce), support and coach firms to incorporate advanced technologies and processes into their business,
- Stimulate digitally based entrepreneurship with particular attention to start-ups and incubators and accelerators that supports them.

Overall, more than 30 000 enterprises are expected to benefit from general and more tailored support. These investments are expected to boost the competitiveness of firms and address significantly the challenges Portugal faces with the adoption of digital technologies. These investments are expected to have long-lasting effects contributing to the economy's resilience and growth.

Component 16 also includes investments in cybersecurity, privacy, usability and sustainability certification platforms. Further, campaigns to disseminate and empower conformity assessment bodies or technical assessment laboratories and design certification seals in those areas aims to increase the trust of digital technologies and support their adoption. By increasing the level of trust, these investments are expected to positively contribute to the adoption of digital technologies, boosting their use and availability.

Investments are also planned to develop a national network of test-beds, or platforms for conducting rigorous, transparent, and replicable testing of scientific theories, computational tools, and new technologies (30 new test-beds). This should help firms to develop and bring new products to the market, with particular attention paid to digital technologies. In addition, investments are envisaged to expand the Digital Innovation Hubs with 16 additional hubs planned. These investments are expected to have a lasting impact and boost firms' competitiveness, accelerating the transfer of technology and diffusion of innovation.

Other investments in digitalisation are specifically planned for the cultural sector (EUR 93 million). This includes steps to modernise the technological infrastructure of cultural installations, digitalise outstanding works of art and cultural heritage (for their preservation), and support the internationalisation and digitalisation of the book publishing industry. The sea sector is expected to also benefit from digitalisation investments (IT equipment and digital skills) with a sectorial focus. These investments are expected to have a lasting impact and to contribute to the digital transition of these sectors.

The latest DESI results in 2020 show that Portugal ranks 16th for the integration of digital technologies in companies, with an overall score just below the EU average. In addition, the proportion of SMEs with at least a basic level of digital intensity (51%) is lower than the EU average (60%), which shows that Portuguese SMEs are less digitally active than their counterparts.[33] This is particularly relevant in view of the fact that the Portuguese economy is dominated mainly by micro-enterprises. Overall, the investments in the digitalisation of businesses set out in the plan are expected to structurally transform the business model of the

[33] Eurostat - Community survey on ICT usage and eCommerce in Enterprises.

Portuguese economy and have a lasting impact on the digital transition, competitiveness and resilience of firms.

The recovery and resilience plan dedicates significant investments to e-government and digital public services. The investments in digital public administration, included in Component 19, amount to EUR 527 million, and include measures to (i) modernise the consular services by putting in place an omnichannel response capacity (single digital gateway, call centre and in-person services), (ii) foster adoption of cloud and 5G services, and (iii) reduce asymmetries in the provision of public services. Actions are also envisaged to reinforce the use of data by public services, strengthening interoperability and data sharing and interoperability with external entities and cross-border connections (e.g. with the European Open data portal). Other investments are set to target the government's IT network, improve the coverage and capacity of the State Emergency Communications network and the national internal security network and review the architecture of the information systems and processes of the country's security forces. These investments are set to also implement the *once-only* principle in order to reduce the administrative burden on citizens and businesses.

These investments are expected to have a long-lasting impact on the digital transition of the public administration and will be essential for strengthening the interoperability capacities of its digital services. They are set to equally strengthen the capacity of the public administration to exploit data for decision-making, to expand the availability of electronic identification solutions and data access control mechanisms and to enhance interoperability and transition to cloud; this is expected to lead to a greater functional integration of services. In turn, these investments are set to also be key to ensuring that the public administration service uses all available channels and is uniform and close to citizens and businesses, eliminating persistent disparities in the usability, accessibility, dematerialisation and digitalisation of public services. Cloud computing measures, for example, are foreseen to support different sectoral transformations (schools, public administration, economic justice, business transformation).

For e-justice and business environment (Component 18), the plan includes significant investments (EUR 267 million) to tackle two long-standing issues in the Portuguese framework. These are the obstacles in obtaining business licences and the inefficiencies in the justice system (such as lengthy judicial proceedings). Furthermore, this investment are designed to boost the adoption of the 'digital by default' paradigm in both processes and procedures relating to the functioning of courts and interaction with stakeholders. Digital investments in this area include investment in platforms for the justice system and for the interaction between the justice system and citizens and businesses to make new services available online. These investments are also complemented by the enhancement of technology infrastructure and equipment, including datacentres, disaster recovery and the creation of a multichannel contact centre in the field of justice. Investments in this area also have a cross-border dimension as they are expected to develop the interoperability of national records with those of other EU Member

States under EU initiatives[34]. These investments are expected to contribute to the digital transition and to structurally change the business environment and the justice system.

The digital investments in public administration in Component 17 is expected to also have a lasting impact insofar as they are set to improve public financial management in Portugal, thereby increasing the sustainability of public finances. These investments include measures such as: (i) the digitalisation of processes, as well as the automation of accounting and its integration in central information systems at the Ministry of Finance, which are set to benefit budgetary planning, monitoring and accountability; (ii) the upgrade of the information systems of the Tax and Customs Authority for rural property taxation; and, (iii) the digitalisation of Social Security services in order to simplify the granting of social benefits, and make services more user-friendly. Machine-learning and artificial intelligence is set to also be employed in new surveillance tools to curb fraud and evasion.

Other digital investments are planned in Component 2 - Housing, Component 3 – Social Responses and Component 8 - Forests. These include investments in the digitalisation of housing services and specific investments in social services, which are set to involve investing in digital information tools to nurture the inclusion of people with disabilities. Digital investments in forestry are also included. These are measures to develop the Digital Services Platform for the Territorial Cadastre (BUPi) and a digital model of land use through the Land Cover Monitoring System (SMOS), as part of a plan for the active planning and management of vulnerable agricultural and forestry land of high environmental value. These investments are expected to have a lasting impact on the digital transition of these sectors, making them also more efficient and bringing them closer to citizens.

Related to public administration, significant investments in the digitalisation of health services (Component 1 with EUR 351 million) are also included. Investments cover telemedicine, the upgrade of the IT systems and equipment of hospitals, improvement of the health data network and of interoperability between different information systems. These measures are also complemented by specific training on digital skills and support for the digitalisation of health records. It is expected that these investments have a lasting impact on the digitalisation of the health sector and help make access to online services more user-friendly for patients.

All investments in Components 1, 2, 3, 8 and 17-19 are expected to have a lasting impact on the digital transition of the Portuguese public administration, on social services and on the health system. They are expected to also have a lasting impact on the accessibility of these public services and on the way in which citizens and businesses are able to interact with them.

[34] Criminal record information in the European Criminal Records Information System (ECRIS), to enable the publication and search of interoperable judicial decisions through the European Case Law Identifier (ECLI), to facilitate the exchange of information between judicial entities on the basis of E-Codex and to cooperate within the framework of the European Car and Driving Licence Information System (EUCARIS), the use of cross-border identification resources (e.g.:eIDAS).

The investments are set to also improve the efficiency of public service provision andincrease their resilience, while also ensuring social and territorial cohesion.

The recovery and resilience plan also includes some limited investment in connectivity[35]. These investments are focused on connecting schools (Component 20) to the publicly-owned Enlarged Education Network, and on improving the coverage of local 5G networks, targeting in particular the public administration of the Autonomous Region of Madeira (Component 19) and business parks (Component 7). The investments in connectivity in schools are expected to have a lasting impact on the digital transition of the education system and on the development of digital skills.

Conclusion on the assessment of criterion 2.6 of Annex V to the RRF Regulation

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 and to address the related challenges. It ensures that at least 20% of its total allocation contribute to support digital objectives. This would warrant a rating of A under criterion 2.6 of Annex V to the RRF Regulation.

4.7. Lasting impact of the plan

The recovery and resilience plan includes an ambitious package of measures aimed at addressing challenges identified in the context of the European Semester. The measures in the plan facilitate the green and digital transitions and strengthen the growth potential, job creation and economic and social resilience of Portugal. The proposed reforms and investments are thus expected to have a lasting, positive impact on the Portuguese economy and society.

Most of the components of the plan are expected to have a lasting impact on Portugal. The measures presented in this respect comprise structural changes to the administration or relevant institutions and policies. The lasting impact refers to policy areas where the estimated long-term impact on growth potential and employment is significant, as specified in Chapter 4.3, but also in areas where structural changes are expected to improve social and cultural aspects that are not necessarily quantifiable.

Structural change in administration and institutions

The plan presents structural changes in the country's public administration or related institutions. This is particularly the case in health and long-term care (Component 1 – National Health Service), housing (Component 2 – Housing), business capitalisation and innovation (Component 5 – Investment and Innovation), public financial management (Component 17 – Quality and Sustainability of Public Finances), the justice system (Component 18 – Economic

[35] Portugal explains that the plan does not include a nationwide 5G coverage initiative, as these investments are set to in principle be carried out by private operators as part of the coverage obligations. Further, Portugal explains that if the final result of the auctions does not ensure adequate coverage of the national territory, in particular in areas of lower demand density, the investment are set to be subsidised, where necessary and in a manner compatible with State aid rules, by the cohesion funds for the period 2021-2027.

Justice and Business Environment), and digitalisation of the country's public administration (Component 19). In many cases, the measures in various components of the plan are designed to increase the level of digitalisation of relevant institutions, and this is expected to have a lasting impact on the quality of services and the business environment.

The reform of the governance model of public hospitals should support cost efficiency and quality of service. It is expected to introduce an enhanced governance model for public hospitals, to grant them greater autonomy regarding investment and hiring decisions, in combination with enhanced monitoring and stronger accountability of public managers. This strategy crucially hinges upon making best use of the planning and management tools foreseen in the current legal framework, such as revamping management contracts to strengthen performance-based practices, and ensuring the wide-spread approval of hospitals' budget and activity plans based on compliance with tailor-made verifiable objectives that are set to foster sustainability and quality of service.

The establishment, capitalisation and mission expansion of Banco Português de Fomento, are expected to result in a lasting structural change for investment. The proposed increase of the bank's capital to more robust levels is expected to support the bank in the process of becoming InvestEU implementing partner and, thus, to facilitate access to finance, particularly for SMEs affected by the crisis. In addition, the creation of a special purpose vehicle, which is expected to invest in viable Portuguese firms in the form of equity and quasi-equity, should address the structural problem of firms' undercapitalisation. Both measures are expected to boost private investment, productivity growth and job creation potential on a long-term basis.

The reform to modernise and simplify public financial management are expected to strengthen Portugal's budgetary framework. The full and effective implementation of the 2015 Budgetary Framework Law – which has experienced systematic delays – is expected to support overall budgetary planning and monitoring through a stronger medium-term focus and enhanced transparency. It should also help strengthen expenditure control, cost efficiency and appropriate budgeting, which would facilitate rechannelling public resources to new strategic priorities and assessing the effectiveness of public policies. The reform is expected to go hand in hand with a significant upgrade of the information systems for public financial management, as well as full adherence to the new accrual-based accounting system, which are expected to take effect gradually across government sectors and bodies. In addition, spending reviews are planned to become a structural feature of Portugal's budgetary process, through their better integration in the annual budgetary cycle and the ex-post evaluation of possible efficiency gains. Finally, the financial sustainability of state-owned enterprises is planned to benefit from measures to ensure timely, transparent and comprehensive monitoring, while enhancing governance through strengthening performance-based managerial practices.

The digitalisation of public administration builds on the 'digital by definition' paradigm to facilitate and simplify the interactions with businesses and citizens. It is complemented by a strategy to bring public services closer to the public by implementing a multichannel approach (online, in-person and call-centre). A significant build-up of public administration's digital capacity and the adoption of the once-only principle in public services pave the way for a significant reduction in the complexity of processes and procedures, making public administration more effective in the long term.

Structural changes in policies

Structural changes in policies are envisaged in all components of the plan and most of them are expected to have a lasting impact. Many of these changes refer to a new energy model for the transition to climate neutrality. The transition is seen as an opportunity to leverage the national economy in a spirit of sustainable development by promoting technological advancement, job creation and the preservation of natural resources. This entails measures related to the decarbonisation of industry, the reduction of energy dependency, sustainable mobility, the energy efficiency of buildings, the deployment of new technologies for renewable hydrogen and other renewable gases.

Several policy changes are envisaged to improve the business environment with a lasting impact on the country's competitiveness and potential for attracting foreign investors. These cover measures to reduce the administrative burden on businesses, including the implementation of the once-only principle in public services and the elimination of barriers to investment linked to burdensome licencing requirements. The measures to increase the efficiency of administrative and tax courts (with an expected reduction of the length of court proceedings) and revamp the insolvency framework are expected to improve the business environment and help reduce the backlog of cases, enabling a more efficient disposition of bad assets.

Conclusion on the assessment of criterion 2.7 of Annex V to the RRF Regulation

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

4.8. Milestones, targets, monitoring and implementation

The task force *Recuperar Portugal* (see Section 3.2) has clearly assigned responsibilities and constitutes an adequate structure for implementing the plan, monitoring progress and reporting. The task force is a body of the Portuguese administration that reports to an Inter-Ministerial Commission (see above). The task force is of a temporary nature and is to operate until the implementation of the recovery and resilience plan has been completed. Staffing needs have been assessed by referring to similar, permanent structures in charge of other European Funds, such as the managing authorities. The task force's operational capacity is set to be assessed in the course of the first audit. This ad hoc centralised structure has clearly defined responsibilities enshrined by law, which ensures a priori a sound coordination and reporting mechanism between this structure and other bodies responsible for implementing the investments and reforms under the various components. The task force is expected to monitor the implementation of the reforms and investments of the recovery and resilience plan, ensuring that its strategic objectives are achieved and that milestones and targets serve for monitoring and achieving the operational objectives of the recovery and resilience plan. It is set to sign contracts with direct and intermediate beneficiaries with the respective conditions for the use of funding and is expected to prepare and submit to the European Commission the requests for payment, gathering the necessary information from the competent authorities. It is expected to also promote the dissemination of the recovery and resilience plans outputs and results at national and European level and respond to the European Commission's information needs. Moreover, the task force is expected to set up an internal management and control system, supported by appropriate monitoring and reporting models, intended to prevent and detect irregularities and to allow for timely and appropriate corrective actions if needed. In the same vein, the task force is set to put in place effective and proportionate anti-fraud measures, taking into account the risks identified. In addition to the task force coordinating the plan's overall actions, the actors responsible for implementation have been identified in each component for the corresponding reforms and investments, ensuring clarity and accountability.

The intended monitoring and reporting mechanisms described in the plan appear appropriate. An information system should be operational before the first payment request (excluding the pre-financing). This system is set to collect the necessary information to monitor the whole life cycle of the reforms and investments, including milestones, targets and results. The operationalisation of this information system and interoperability with the other systems, including the European Commission system, are set to be ensured before the first audit of the management and control system, to be carried out by the General Inspectorate of Finance (IGF) prior to the submission of the first (excluding pre-financing) payment request to the European Commission. This information system should ensure the dematerialisation of processes in a secure manner and an architecture for monitoring the entire lifecycle of investments and reforms, including information on milestones and targets, as well as information supporting the monitoring of their financial implementation. The information system is set to ensure the collection, storage and availability of information related to the investments and reforms of the recovery and resilience plan, including data on the final recipients of the measures of the plan, including the standard categories of data provided for in the Regulation.

Appropriate tools are envisaged to ensure transparency. An information and transparency mechanism (the Transparency Portal) was launched on 28 April 2021 to centralise information on European funds. It is expected to integrate all systems and schemes implemented in Portugal and covers, as one of the central priorities, the recovery and resilience plan. The Portal identifies, in real time, the measures and projects financed by European funds. The measures are categorised by instrument, programme and economic activity for each project. The system is thus set to provide information on investments throughout the implementation phase until their closure, including the results of the controls carried out. This mechanism is set to use information from the current programming period and is expected to allow access on the same platform to information from the recovery and resilience plan as well as information from Portugal 2020 and the future Portugal 2030.

The milestones and targets of the Portuguese plan constitute an appropriate system for monitoring the plan's implementation. The monitoring indicators are sufficiently clear and comprehensive to ensure that their completion can be traced and verified. The milestones and targets chosen represent key steps of the measures and concrete achievements directly linked to the implementation of the measures and under the control of the Portuguese authorities. The milestones and targets are considered relevant for the implementation of the Portuguese plan. They reflect adequately the overall level of ambition of the plan and appear realistic. The verification mechanisms, data collection and responsibilities described by the Portuguese authorities appear sufficiently robust to justify in an adequate manner the payment requests once the milestones and targets are completed.

The measures in the plan are nevertheless highly fragmented. This results in a high number of milestones and targets. This could lead to a relatively burdensome monitoring and pose some risks as to the timely implementation of the plan. The specific timing of numerous investments is set to lead to finalisation at the end of the period.

Portugal also provided a broad range of detailed indicators, which it is expected to use to monitor informally the progress of the implementation of individual measures between the payment requests. These indicators, some of which are set to be included in the Operational Agreement, provide an adequate early warning system to ensure that Portugal can take corrective actions in time if necessary to avoid missing the objective set up in the relevant milestone/target. In addition, milestones and targets comprehensively cover the various (sub)elements of the measures so that the plan can be monitored in its entirety.

An Inter-Ministerial Commission is set to ensure the overall political steering of the recovery and resilience plan. This commission will be chaired by the Prime Minister. It also includes the members of the government responsible for the economy and digital transition, foreign affairs, the presidency, finance, planning, the environment and climate action. The Inter-Ministerial Commission's role is expected to be the strategic political management of the recovery and resilience plan, ensuring that its implementation is consistent with national and European strategic guidelines, and the articulation and deepening of synergies with other public policies, as well as its alignment with the national budgetary resources laid down in the budgetary programming instruments. The Inter-Ministerial Commission is expected to give direct policy impulse to the management/technical level.

Close technical cooperation between the task force *Recuperar Portugal,* the Agency of Development and Cohesion and the Ministry of Finance will be critical for the plan's implementation. The Agency of Development and Cohesion, in charge of the overall mix of EU funds, is directly responsible for the systematic analysis of double funding and payments to the direct or intermediate beneficiaries of the recovery and resilience plan. The Agency is expected to also ensure that the recovery and resilience plan is complementary to and consistent with other initiatives. The Ministry of Finance is set to be in charge of formal interactions with the Economic and Financial Committee and the Economic and Financial Affairs Council (ECOFIN). The division of responsibilities between the three entities operating at the management level is clearly explained.

A National Monitoring Commission is expected to ensure the effective and impactful participation of key institutional, economic and social representatives in the monitoring and implementation of the recovery and resilience plan. The commission's membership is set to be composed by a large number of stakeholders of recognised standing (including academia, civil society, etc.) and is expected to provide recommendations on improving the implementation and give feedback on the implementation reports submitted by the task force *Recuperar Portugal*.

The plan describes the institutional actors that are responsible for implementation the individual reforms and investments at component level. The various actors in charge of the measures are clearly indicated in the description of the 20 components of the plan. The responsible ministries or actors involved in the execution of each reform and investment are set to liaise on a regular basis with the task force.

Conclusion on the assessment of criterion 2.8 of Annex V to the RRF Regulation

The arrangements Portugal proposes 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

Portugal has provided individual estimated costs for all investments and reforms with associated costs in the recovery and resilience plan. In most cases, no costs were associated with the reforms in the plan.

Evidence was provided establishing the eligibility of the costs. All costs are incurred after February 2020 and do not substitute recurring national budgetary expenditure, with few duly justified exceptions, meeting the requirements of article 5 of the Regulation. The share of these costs in the overall plan is limited while these recurrent investments are expected to have a demonstrable long-term positive impact on the economic and social resilience of Portugal.

The cost breakdown is generally detailed and well-substantiated. The estimates are for the most part based on comparisons with procurement contracts for similar services or past investments of similar nature. While the tables proposed in the standard template were duly completed and presented, Portugal did not provide an independent validation for any of the cost estimates proposed. The assessment of the cost estimates and supporting documents shows that most of the costs are reasonable and plausible.

Reasonable costs

To support the cost estimates, Portugal provided an extensive list of documents to justify and explain the amounts proposed, and gave explanations on how those amounts were computed. For the most part, older projects or procurement contracts linked to the proposed investments were presented to serve as a benchmark for the cost estimates. The analysis of the supporting evidence is not fully consistent throughout the plan. While for the most part the calculations were clearly spelt out and it is possible to clearly identify the methodology used, in some sub-investments the information provided did not allow to fully establish the reasonability of the cost estimates.

Cost estimates have been deemed to a large extent reasonable. The amounts proposed for financing have been deemed appropriate for most of the measures, whilst taking into account the limits of an ex-ante based assessment of cost estimates.

Plausible costs

The amount of the estimated total costs of the recovery and resilience plan is in line with the nature and type of the envisaged reforms and investments. Portugal provided an extensive collection of documents to substantiate the cost estimates. However, for several investments, clear explanations were missing as to how the past projects presented as the basis for the estimates were used or adjusted to provide for the cost estimates presented. Without these explanations, it is difficult to verify how some of the documentation provided was used to estimate the costs.

Considering the limitations of an *ex ante* assessment of cost estimates, the amounts proposed for financing were deemed appropriate and seen as establishing the plausibility of the cost estimates to a medium extent.

No double EU financing

While the individual components do not, as a rule, provide clear information about additional investments from other EU funds, a strong coordination mechanism has been put in place to ensure that double funding is avoided. In general terms, the Portuguese recovery and resilience plan mentions the complementarity with other Union financing instruments, namely the Partnership Agreement 2021-2027, currently under discussion. The plan also mentions its alignment with the mission and the objectives of the Portugal 2030 Strategy and its contribution to implement the thematic agendas identified in the Strategy. However, given the state of play of the negotiations of the different EU programmes, detailed and assertive delineation is not possible at this early stage.

Not only the audit and control systems described in Section 4.10 have been designed to prevent double Union financing, but a specific audit process was also put in place to ensure that the risk of double funding is mitigated and prevented. Checks are set to be carried out by *Recuperar Portugal*, complemented by systematic analysis carried out by the Agency for Cohesion on the financing allocated by other EU funds, and of the information to be provided by the beneficiaries. This agency has a centralising role in the management of information on EU funding, and is set to therefore be in a position to cross-analyse data the mitigate the risk of double funding, by confirming that the same investments or reforms have not been financed by other EU sources. This systematic analysis by the agency is set to take place every six months, and to be based on a double-checking of the information.

The recovery and resilience plan also provides information on the criteria to be used to establish a clear demarcation between the actions to be financed by each Fund to ensure that the same cost is not covered twice by Union financing. The lack of detailed information at component level as regards the delineation with other possible EU funding is compensated by strong governance and control systems, as described in the following section, and an approach based on i) different timing/stages of large investments, ii) different timetables, or iii) different investment typology to ensure no overlap between the different EU funds. The implementation process is expected to include measures to prevent the risk of double funding.

The complementary typology 'different stages of large investments' refers to cases where the process of implementing an investment plan, in particular large-scale public works, can be split into different complementary independent projects, including over several programming cycles. For example, the expansion of a metro line envisaged under Component 15 – Sustainable Mobility does not impede other further expansions or interventions at a later date using other EU funds.

In turn, the typology of 'separate timetables' frames cases where the recovery and resilience plan is expected to be used to launch an initiative, but there is from then onset a foreseeable need to continue to support a transformation process beyond the implementation period of plan. A clear example can be found in Component 14 – Hydrogen and Renewables, where it is expected that at some point in the future the implementation processes initiated under the recovery and resilience plan will need to be consolidated. The recovery and resilience plan is expected to be used to trigger the development of this technology but its further development and consolidation is expected to continue in the future.

Lastly, the complementarity 'different typologies' applies where the recovery and resilience plan will finance a clear sub-set of needed investments while the rest is expected to be covered by other funding sources. An example can be found in Component 19 – Digital Public Administration, where the focus is the digitalisation of *central* public administration, whereas the digital transition of *local* public administration is to be financed under cohesion policy.

Commensurate and cost-efficient costs

Taking into account the economic and social impact of the plan, as well as the reasonability and plausibility of the cost assessment, it is considered that the plan is in line with the principle of cost efficiency. At the same time, the output targets provided in the plan for the investments are commensurate with the costing justifications and assumptions provided.

Conclusion on the assessment of criterion 2.9 of Annex V

The justifications provided by Portugal on the amount of the estimated total costs of the recovery and resilience plan are to a medium extent, reasonable, plausible, in line with the principle of cost efficiency and commensurate to the expected national economic and social impact on the economy. Portugal has 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 in Annex V to the RRF Regulation.

4.10. Controls and audit

To implement the RRF and to contract physical and financial results based on milestones and targets, Portugal has been looking for close links with policy implementers and the managing structures used for implementing cohesion policy. Based on the experience acquired over time in managing European cohesion funds, a model of centralised management and decentralised implementation has been chosen, using intermediary entities where necessary.

The governance model for the Portuguese RRF was established in the Decree Law No. 29-B/2021. It has four levels of coordination:

- Strategic and policy coordination level, provided by the recovery and resilience plan Inter-Ministerial Commission,
- The level of monitoring provided by the National Monitoring Commission, chaired by an independent person and persons of recognised merit, comprising a wide range of entities from the business sector, science and knowledge, the social and cooperative sector, and territories;
- Level of technical coordination and monitoring, ensured by the task force *Recuperar Portugal*, the Agency for Development and Cohesion, I.P. (Agency, I.P.) and the Planning, Strategy, Evaluation and International Relations Office of the Ministry of Finance (GPEARI);
- The level of audit and control carried out by an Audit and Control Committee (CAC), chaired by the Inspectorate-General for Finance (IGF).

The task force *Recuperar Portugal* is expected to carry out technical and management coordination, ensuring operationalisation of the various components of the recovery and resilience plan, and is set to assume the functions of monitoring, evaluation, interaction with the European Commission, audit and control. This is expected to always be done in application of the principle of segregation of functions and in close coordination with the Agency, I.P. and the GPEARI and with the IGF for the audit function.

The national management of the recovery and resilience plan is set to be centralised in the *Recuperar Portugal* task force. Implementation of the plan, its reforms and its investments are set to be contracted out by the task force to public agencies or bodies, which are expected themselves to be the implementers (direct beneficiaries, i.e. responsible for the physical and financial implementation and execution of an investment included in the recovery and resilience plan and allowing it to benefit from financing) or intermediaries (intermediate beneficiaries, i.e. responsible overall for the physical and financial implementation of an investment included in the recovery and resilience plan but whose implementation is carried out by third parties the intermediaries have selected and which constitute final beneficiaries). In this way, the operational implementation of the 32 reforms and 83 investments underpinning the recovery and resilience plan is set to be decentralised at the appropriate level to ensure the plan's full implementation, both financially and in particular in meeting milestones and targets for achievement and outcome.

The Audit and Control Committee (CAC) is responsible for overseeing the internal control system of the task force *Recuperar Portugal*, for giving a prior opinion on the requests for payment of recovery and resilience plan funding every 6 months and for carrying out audits on the functioning of the recovery and resilience plan management and control system. The Public Prosecutor's Office follows-up the activities of the CAC, within the scope of the powers conferred on it in relation to criminal prevention. To make this governance model more efficient, there are also plans to boost capacity-building activities for entities with relevant responsibilities in the management, control, monitoring and evaluation of the recovery and resilience plan, with a view to strengthening technical and management capacity, with training on regulations, standards and procedures, including the dissemination and sharing of good practices and benchmarking exercises. A Transparency Portal is expected to be set up to centralise information on European funds by integrating all systems and schemes implemented in Portugal and covering, as one of the core priorities, the recovery and resilience plan. The system is expected to provide information on investments throughout the implementation phase and until their closure in the recovery and resilience plan.

Management and control provisions are part of the contracts concluded with the intermediate beneficiaries. Next to that there is a central body acting as audit committee using mainly the IGF as executive audit body. This body establishes the audit strategy. Audits are planned to assess the functioning of the management and control systems of the recovery and resilience plan (systems audit, IT system audit) at the start-up stage of the recovery and resilience plan implementation, including also the institutional, technical and administrative capacity of the intermediate beneficiaries and in any case by the time of the first payment request, as well as supervisory and (risk-) targeted audits during implementation of the recovery and resilience plan and covering legality, financial and performance data (e.g. milestones and targets).

In their plan the Portuguese authorities have described adequate policies, systems and procedures to prevent, detect and correct corruption, fraud and conflicts of interests when using the funds provided under the RRF, including how they will avoid double funding from the RRF and other European Union programmes.

These include:

- Prescribed minimum standards for internal control system intermediate beneficiaries;
- Code of Ethics and Conduct;
- Declaration of anti-fraud policy;
- Risk management plan for corruption and related infringements;
- Declaration of absence of impediments and incompatibilities;
- Risk management manual;
- Handling of complaints;
- Use of the ARACHNE IT tool (or similar);
- IT tool ‘Transparency Portal’;
- Integrated reporting tool (financial and performance data including control and audits);
- IT tool for the electronic transmission of data on final beneficiaries; and,
- Use of existing tool for the follow-up of irregularities.

The internal control system describes processes and structures and identifies the actors and their roles and responsibilities for the performance of the internal control tasks; it notably ensures appropriate segregation of functions.

The plan contains 32 reforms and 83 investments spread over 20 components for which contracts are expected to be concluded between *Recuperar Portugal* and direct or intermediate beneficiaries and between the latter and their final beneficiaries. These contracts contain provisions to mitigate double funding, risk of fraud, corruption and conflict of interest (e.g. internal control, verification and control procedures (incl. in respect of targets and milestones), progress reporting, use of IT systems). The development of a Transparency Portal contributes to a source of centralised information for all past, present and future EU-funded measures and projects. Audits are also expected to be carried out by the IGF (which is also Audit Authority for all other EU funds) that include system audits and on-the-spot checks of bodies receiving public funds. Finally, the Portuguese Court of Auditors, as the Supreme Audit Institution is responsible for supervising, at national level, the implementation of financial resources from the European Union, in accordance with the applicable law, and may act in cooperation with the competent Community bodies. Its tasks also include to the control of public procurement and to the clearance and sanctioning of financial infringements detected during the implementation of programmes.

The control system and related arrangements are adequate. The control system and other relevant arrangements described in the plan, including for the collection and making available of data on final recipients, in particular to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the Facility as well as the arrangements described to avoid double funding from the Facility and other Union programmes, are rated adequate. The actors (bodies/entities) responsible for controls have the legal empowerment and administrative capacity to exercise their envisaged roles and tasks (Decree Law No 29-B/2021 and Resolution of Council of Ministers No 46-B/2021).

Portugal's recovery and resilience plan was sent to the Commission on 22 April 2021, and the plan indicates that existing IT tools require some changes or developments (e.g. to facilitate reporting on specific milestones and targets). These IT developments were ongoing, and are to be finalized in the first months of the implementation of the recovery and resilience plan and in advance of the first audit of the management and control system to be carried out by the General Inspectorate of Finance (IGF) prior to the submission of the first (excluding pre-financing) payment request to the European Commission.

Conclusion on the assessment of criterion 2.10 of Annex V

The arrangements proposed by Portugal 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 sufficient. This would warrant a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

4.11. Coherence

The Portuguese recovery and resilience plan builds on the national development strategy (Portugal 2030) and is recognised as one of the key instruments for its implementation. It reveals a strategic and consistent vision throughout the plan, displaying coherence at different levels: within each component, between the objectives of different components and amidst individual reforms and investments in different components.

Mutually-reinforcing measures

The reforms and investments in each component included in the Portuguese plan are consistent and mutually reinforcing. Reforms included in the plan enable and underpin the planned investments, while investments aim at operationalising the reforms. A clear example can be found in Component 18 – Economic Justice and Business Environment, where the proposed reform with the same title provides the legal basis for the digitalisation of processes and procedures, without which the investment proposed in digital platforms and software, and in particular the procedures to be digitalised, would be ineffective. Similarly, the objectives of the reform in Component 15 – Sustainable mobility are intrinsically linked with the five investments in sustainable transport proposed in this component. The reform empowers transport authorities, which is expected to help future investments to be fully effective. The investments are set to contribute towards achieving these targets by improving connectivity and decarbonising public transport in the main urban centres. In a similar vein, the provision of social housing at affordable rents included in Component 2, whether permanent or temporary, is set to largely result from the implementation of municipal housing programmes under the coordination of the national agency for housing and urban renewal.

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

Complementarity of measures

There is a consistent vision throughout the plan as regards the proposed reforms and investments. Synergies can be found between different components and also between the individual measures. For example, the sustainable urban transport investments in Component 15 – Sustainable Mobility are expected to strengthen the social measures in metropolitan areas included in Component 3 – Social Responses, as improved and affordable public transport in metropolitan areas is set to reduce the mobility costs of low income families and ensure broader access to services and employment opportunities. The strategy for the move to the cloud in the public administration, governed by the investments in Component 19 – Digital Public Administration, is referred to and built upon in the other areas where this cloud strategy is set to also be adopted, such as in Component 18 – Economic Justice and Business Environment. Another example is the fact that elements of investments included in Component 14 – Hydrogen and renewables depend on additional water inflows that are set to result from the implementation of the investment plans under Component 9 – Water Management.

Individual measures also show the intrinsic complementarity between different components. For example, improvement of the population's skills level is addressed through different components, which complement each other. While Component 6 – Qualifications and Skills is the anchor for skills and competencies in the plan, it is complemented with investments of a more sector-specific nature in Components 10, 16, 19 and 20, showing a strong consistency in the approach and tailoring the responses to the target groups, increasing their efficiency. The overall strategy and structure to tackle the digital skills and qualifications challenge is structured in four strategic pillars: citizens in general (C6), workers (C16), civil servants (C19) and students (C20), with a specialised approach to areas linked to the sea included in C10. By ensuring coordination and complementarity, the effectiveness of the measures is expected to be strengthened. Another clear example of how the different components work together is the envisaged rural properties cadastre. The objective of having a modern single digital gateway for rural properties is shared by the reforms and investments in Components 8, 17 and 18: Component 8 is set to focus on the collection of the information from a land management point of view, Component 17 is set to ensure the update of the land cadastre by Tax and Customs Authority, while Component 18 is designed to ensure that the property registry is fully digitalised and available online. Together, these investments are set to ensure that BUPi (the *Balcão Único do Prédio*) interface will be the single digital gateway for the different sources of information on rural properties. These strong connections maximise the potential benefits of the investments and reforms proposed, in line with the objectives of the RRF.

Important reforms and investments are also included that are expected to address existing cross-cutting bottlenecks and therefore reinforce the impact of investments throughout the plan. The increased efficiency of the justice system envisaged in Component 18 is expected to bring benefits to all stakeholders, from citizens to businesses, while the latter are set to also see the administrative burden associated with the launch and other stages in the life cycle of a business reduced due to the streamlining of licencing requirements and the digitalisation of the different procedures. Similarly, structural measures in Components 17, 18 and 19 (such as fiscal reforms, the single digital gateway and the implementation of the ‘once-only principle’ in the interactions with the administration), are expected to increase the efficiency of public investment, reduce red tape and make interactions with the public administration more efficient. Likewise, the concerted effort for upskilling and digitalisation and the focus on STEAM areas, combined with the impetus given to research and innovation, are expected to provide the necessary know-how for growth and strengthen the country’s productive capacity (Components 5, 6, 10, 11, 12, 14, 16 and 20).

The plan does not present inconsistencies or contradictions between the different components. Due care was given to ensure that implementation timelines and reforms and investments were aligned to ensure successful delivery of the measures.

In view of the challenges to be addressed, the Portuguese recovery and resilience plan presents a balanced approach between reforms and investments. As noted in Section 4.2, the plan aims to address most of the challenges identified in the country-specific recommendations, making the proposed combination of reforms and investments appropriate. In order to promote wider coherence across instruments, notably with the European cohesion policy funds, a balanced territorial allocation of resources is encouraged.

Conclusion on the assessment of criterion 2.11 of Annex V to the RRF Regulation

Taking into consideration the qualitative assessment of all the components of Portugal’s recovery and resilience plan, their individual weight (size, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a 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.

5. ANNEX

Table 8 Climate and Digital Tagging Table

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-C01-i01	Primary health care services with more answers — Building new health units	155	025ter	40%		
RE-C01-i01	Primary health care services with more answers — Refurbishment of health facilities and equipment to ensure accessibility, quality and safety conditions in primary health centres (i)	11	026bis	100%		
RE-C01-i01	Primary health care services with more answers — Refurbishment of health facilities and equipment to ensure accessibility, quality and safety conditions in primary health centres (ii)	134	026	40%		
RE-C01-i01	Primary health care services with more answers — Purchase of electric cars associated with the provision of health care	23	n/a[36]	100%		
RE-C01-i01	Primary health care services with more answers — Tele-medicine/tele-healthcare	6			095	100%
RE-C01-i02	National Network of Integrated Continued Care and National Network of Palliative Care — Strengthening the response capacity of the national networks of integrated continued care and palliative care	198	025ter	40%		

[36] The 'Methodology for climate tracking' annexed to the Recovery and Resilience Facility Regulation 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).

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
	services in inpatient and outpatient care					
RE-C01-i03	Completion of the mental health reform and implementation of the dementia strategy — Completion of the strengthening of the mental health care network	59	026bis	100%		
RE-C01-i05-RAM	Strengthening Madeira's Regional Health Service — Increase in the number of places in integrated continued care services in Madeira's Regional Health Service	45	025ter	40%		
RE-C01-i05-RAM	Strengthening Madeira's Regional Health Service — Energy renovation of health facilities in Madeira's Regional Health Service	23	026	40%		
RE-C01-i06	Digital Health Transition	300			095	100%
RE-C01-i07-RAM	Digitalisation of Madeira's Regional Health Service	15			095	100%
RE-C01-i08-RAA	Digital Hospital in the Azores	30			095	100%
RE-C02-i01	Support programme for access to housing — Renovations	466	025	40%		
RE-C02-i01	Support programme for access to housing — New construction (i)	670	025ter	40%		
RE-C02-i02	National emergency and temporary accommodation grant — New construction (i)	140	025ter	40%		
RE-C02-i02	National emergency and temporary housing grant — Renovations	21	025	40%		
RE-C02-i03-RAM	Strengthening of the supply of social housing in the Autonomous Region of Madeira — New construction	129	025ter	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-C02-i03-RAM	Strengthening of the supply of social housing in the Autonomous Region of Madeira — Renovations	6	025	40%		
RE-C02-i03-RAM	Strengthening of the supply of social housing in the Autonomous Region of Madeira — Information technologies	2			011	100%
RE-C02-i04-RAA	Increasing housing conditions in the housing stock of the Autonomous Region of the Azores — New construction	37	025ter	40%		
RE-C02-i04-RAA	Increasing housing conditions in the housing stock of the Autonomous Region of the Azores — Renovations	23	025bis	100%		
RE-C02-i05	Affordable Public housing stock (loan) — Renovations	256	025	40%		
RE-C02-i05	Affordable Public housing stock (loan) — New construction	519	025ter	40%		
RE-C02-i06	Student accommodation at affordable prices (loan) — Renovations	249	025bis	100%		
RE-C02-i06	Student accommodation at affordable prices (loan) — New construction	126	025ter	40%		
RE-R1-C03-i1	New Generation of Equipment and Social Responses: Construction of social equipment	183	025ter	40%		
RE-R1-C03-i1	New Generation of Equipment and Social Responses: Renewal of social equipment	86	026	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-R1-C03-i1:	New Generation of Equipment and Social Answers: Electric Cars to provide social community support services	62	n/a[37]	100%		
RE-R1-C03-i1	New Generation of Equipment and Social Responses: IT equipment needed to provide social community support services	9			013	100%
RE-R1-C03-i3-RAM	Strengthening social responses in the Autonomous Region of Madeira (ARM): Construction of social facilities	36	025ter	40%		
RE-R1-C03-i3-RAM	Strengthening social responses in the Autonomous Region of Madeira (ARM): Renovation of social facilities	43	026	40%		
RE-R1-C03-i4-RAA	Implementing the Regional Strategy for Combating Poverty and Social Exclusion: Social Support Networks (ARA) — Electric Cars for the provision of community support social services	3	n/a[38]	100%		
RE-R1-C03-i4-RAA	Implementing the Regional Strategy for Combating Poverty and Social Exclusion: Social Support Networks (ARA) — Construction of social facilities	9	025ter	40%		
RE-R1-C03-i4-RAA	Implementing the Regional Strategy for Combating Poverty and Social Exclusion: Social Support Networks (ARA) — Renewal of social	5	026	40%		

[37] The 'Methodology for climate tracking' annexed to the Recovery and Resilience Facility Regulation 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).

[38] The 'Methodology for climate tracking' annexed to the Recovery and Resilience Facility Regulation 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).

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
	facilities					
RE-C03-i05	Platform + Access (digital information tools and services for inclusion of people with disabilities)	3			011	100%
RE-C04-i01	Cultural Networks and Digital Transition	93			011	100%
RE-C04-i02	Cultural Heritage — The renovation of cultural installations classified as cultural heritage	148	026	40%		
RE-C04-i02	Cultural Heritage — Saber Fazer: protection of artisan techniques and the creation of a catalogue of activities	2	047	40%		
RE-C05-i01.02	Green Agendas/ Alliances for business innovation	372	022	100%		
RE-C05-i02	Interface mission — Renewal of the scientific and technological support network and guidance for productive fabric — Green	82	022	100%		
RE-C05-i02	Interface mission — Renewal of the scientific and technological support network and guidance for productive fabric — Other areas	104			021	40%
RE-C05-i03	Research and innovation agenda for sustainable agriculture, food and agro-industry (Innovation Agenda for Agriculture 20 30) — Green dimension (i)	45	022	100%		
RE-C05-i03	Research and innovation agenda for sustainable agriculture, food and agro-industry (Innovation Agenda for Agriculture 20 30) — Green dimension (ii)	36	050	40%		
RE-C05-i03	Research and innovation agenda for sustainable agriculture, food and agro-industry [Innovation Agenda for Agriculture 20 30] — Digital Dimension	12			009bis	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-C05-i05-RAA	Economic recovery of Azorean – Agriculture — Other measures	20	047	40%		
RE-C06-i01	Modernisation of vocational education and training institutions — Construction of vocational training centres	26	025ter	40%		
RE-C06-i01	Modernisation of vocational education and training institutions — Renewal of vocational training centres	127	026bis	100%		
RE-C06-i01	Modernisation of vocational education and training institutions — Equipment for digital skills	521			108	100%
RE-C06-i01	Modernisation of vocational education and training institutions — Skills for the green economy	36	01	100%		
RE-C06-i04	Youth impulse STEAM — Support enrolment in STEAM courses and enlarge the network of science clubs (“Ciência Viva”)	130			108	100%
RE-C06-i05-RAA	Adult qualification and lifelong learning (ARA) — Support for digital skills	14			108	100%
RE-C06-i05-RAA	Adult qualification and lifelong learning (ARA) — Modernisation of professional schools	8	026bis	100%		
RE-C07-i01	Business Reception Areas — Renewable energy production and storage systems (solar energy)	36	029	100%		
RE-C07-i01	Business Reception Areas — Renewable energy production and smart storage (energy systems);	38	033	100%	033	40%
RE-C07-i01	Business Reception Areas — Pilot interventions to improve energy stability	15	024	40%		
RE-C07-i01	Business Reception Areas — Sustainable mobility	7	077	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-C07-i01	Business Reception Areas — Strengthening coverage with 5G	10			051	100%
RE-C07-i01	Business Reception Areas — Active fire prevention and protection	3	036	100%		
RE-C08-i01	Landscape transformation of the Vulnerable Forest Territories	270	036	100%		
RE-C08-i02	Digital Rural Property Registry and Land Cover Monitoring System	86	036	100%	011	100%
RE-C08-i03	Fuel breaks management— Primary grid	120	036	100%		
RE-C08-i04	Means for preventing and combating rural fires	89	036	100%		
RE-C08-i05	More Forest Programme (fire prevention and firefighting system)	50	036	100%		
RE-C09-i01	Algarve Water Efficiency Regional Plan	200	040	40%		
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato - Dam construction work	43	040	40%		
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato- Construction of mini hydro	2	032	100%		
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Dam inflow enhancement system	14	040	40%		
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Irrigation block infrastructure and monitoring	47	040	40%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato- Strengthening supply of Povoa and Meadas dam	5	040	40%		
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Environmental expropriation and compensation	8	040	40%		
RE-C09-i03-RAM	Plan for water efficiency and strengthening of supply and irrigation systems of Madeira	70	040	40%		
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Digital infrastructure and equipment	1			055	100%
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Skills for the Green Transition	4	01	100%		
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Protection of nature and biodiversity	35	050	40%		
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Construction of buildings	37	025ter	40%		
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Building renovation	3	026bis	100%		
TC-C10-i01	Blue Hub, Network of Infrastructure for the Blue Economy — Adaptation measures to climate change (e.g. occurrence of floods)	6	037	100%		
TC-C10-i02	Green and Digital Transition and Safety in Fisheries — Energy efficiency in enterprises	21	024	40%		
TC-C10-i03	Atlantic Defence Operations Centre and naval platform — Nature and biodiversity protection	110	050	40%		
TC-C10-i03	Atlantic Defence Operations Centre and naval platform — Skills for the green transition	2	01	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
TC-C10-i04-RAA	Development of the ‘Cluster do Mar dos Açores’ — Protection of nature and biodiversity	18	050	40%		
TC-C10-i04-RAA	Development of the ‘Cluster do Mar dos Açores’ — Construction of buildings	14	025ter	40%		
TC-C11-i01	Decarbonisation of industry	715	024ter	100%		
TC-C12-i01	Bioeconomy — Research and Innovation	120	022	100%		
TC-C12-i01	Bioeconomy — Training and Awareness Raising	3	01	100%		
TC-C12-i01	Bioeconomy — Forest management	16	036	100%		
TC-C13-i01	Energy efficiency in residential buildings	300	025bis	100%		
TC-C13-i02	Energy efficiency in central government buildings	240	026bis	100%		
TC-C13-i03	Energy efficiency in buildings used by the services sector	70	024ter	100%		
TC-C14-i01	Renewable Hydrogen and Gas	185	032	100%		
TC-C14-i02-RAM	Renewable electricity in the Madeira Archipelago	69	032	100%		
TC-C14-i03-RAA	Energy transition in the Azores	116	032	100%		

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
TC-C15-i01	Expansion of the Lisbon Metro Network — Red Line to Alcântara	304	073	100%		
TC-C15-i02	Expansion of the Porto Metro Network — Casa da Música-Santo Ovídio	299	073	100%		
TC-C15-i03	Light Rail Transit Odivelas-Loures	250	073	100%		
TC-C15-i04	Bus Rapid Transit Boavista — Império	66	073	100%		
TC-C15-i05	Decarbonisation of public transport	48	074	100%		
TD-C16-i01	Digital Empowerment of Enterprises (Training)	100			108	100%
TD-C16-i02	Digital Transition of Enterprises	450			010	100%
TD-C16-i03	Catalyst for the digital transition of enterprises	100			010	100%
TD-C17-i01	Public Financial Management Information Systems	163			011	100%
TD-C17-i02	Modernisation of the information systems of the Tax and Customs Authority for rural property taxation	43			011	100%
TD-C17-i03	Digital transition of Social Security services	200			011	100%
TD-C18-i01	Economic justice and business environment (digital transition and resilience of the Portuguese justice IT systems)	267			011quat er	100%

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
TD-C19-i01	Redesign of public and consular service— (digitalisation actions to implement the digital by definition paradigm)	165			011	100%
TD-C19-i01	Redesign of public and consular service— Construction of ”Lojas do Cidadão” and “Espaços Cidadão”	23	025ter	40%		
TD-C19-i02	Sustainable electronic services (reinforcement of data valorisation and exploitation by public services, strengthening interoperability and data sharing)	70			011	100%
TD-C19-i03	Strengthening the overall cybersecurity framework	47			021quinquies	100%
TD-C19-i04	Efficient, secure and shared digital critical infrastructures	83			011	100%
TD-C19-i05-RAM	Digital transition of Madeira’s public administration	78			011	100%
TD-C19-i06-RAA	Digital transition of the public administration in Azores	25			011	100%
TD-C19-i07	Public administration empowered to create public value (training actions for public officials with digital skills elements)	88			016	40%
TD-C20-i01	Digital Transition in Education	500			012	100%
TD-C20-i02-RAA	Digital Education (Azores)	38			012	100%
TD-C20-i03-RAM	Programme to accelerate the digitalisation of education (Madeira)	21			012	100%

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