EUROPEAN
COMMISSION

Brussels, 22.6.2021
SWD(2021) 165 final

COMMISSION STAFF WORKING DOCUMENT

Analysis of the recovery and resilience plan of Italy

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

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

{COM(2021) 344 final}

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1. EXECUTIVE SUMMARY

Italy's economy is set to rebound strongly from the sharp and deep recession triggered by the COVID-19 pandemic. Italy entered the COVID-19 induced slump with an output level that had not yet fully recovered from the post-2009 recession. Real GDP contracted by 8,9% in 2020. The pre-pandemic improvement in labour market conditions came to an abrupt halt and the previously observed jobs growth reversed, even if the impact of the economic shock triggered by the pandemic was considerably mitigated by rapid national and EU policy action. Poverty, which had been declining in 2019, became more widespread. The regional divide was widening already before the COVID-19 crisis, which further exacerbated risks to territorial cohesion. Italy's public finances have been severely hit by the pandemic. The government debt-to-GDP ratio increased from 134,6% in 2019 to 155,8% in 2020 and is expected to increase further in 2021 to 159,8%, before declining to 156,6% in 2022. Looking ahead, falling infection rates associated with an accelerating vaccination campaign that allow for a marked easing of restrictions, are paving the way for a strong rebound over the rest of 2021. Sizeable domestic policy support and of Next Generation EU-financed investment should help real GDP to grow by 4,2% in 2021 and reach 4,4% in 2022, when the investment and reform programme set out in Italy's Recovery and Resilience Plan will start to take full effect.

Italy has requested the maximum amount available under the Recovery and Resilience Facility, corresponding to EUR 191,5 billion, of which EUR 68,9 billion in non-repayable financial support and EUR 122,6 billion in loans. The plan is broad-based and aims at addressing Italy's main structural challenges, which relate to weaknesses in productivity growth, business environment, the public administration, the justice system and insolvency proceedings as well as in the regional differences, the labour market, and in educational outcomes. The Plan also addresses important investment needs for the twin green-digital transitions, research and innovation, to improve access to essential care in a more resilient healthcare system, including the need to fill the infrastructural gap between regions. It also outlines initiatives for long-standing challenges related to the high level of undeclared work and tax evasion.

The Plan includes 16 components and is structured around 6 areas of intervention ("Missions"), focusing on three horizontal priorities: digitalisation and innovation, ecological transition and social inclusion. It includes measures in digitalisation, innovation, culture and tourism; circular economy and waste management; energy, including renewable, energy efficiency, energy infrastructures, hydrogen; mobility; energy efficiency in buildings; sustainable use and protection of land and water resources; rail networks and intermodality; education, research and innovation; policies for employment, social and territorial cohesion; better territorial integration of care and facilitating the uptake of innovation in healthcare, as well as a set of horizontal and enabling reforms related to the public administration, the justice system, the business environment (including on local public services, concessions, market surveillance, late payments and public procurement), tax administration and public financial management**.** These measures aim at enhancing productivity, competitiveness, sustainability and resilience of the economy, while creating new jobs and fostering economic growth, reducing territorial, social, gender and generational divides and minimising the environmental footprint of production. By addressing the country specific recommendations issued to Italy, the measures included in the Plan appear also consistent with the challenges and priorities identified in the Draft Council Recommendation on economic policy of the euro area.[1]

The Plan is balanced in its response to the six policy pillars referred to in Article 3 of the RRF Regulation.[2] Several measures of the Plan contribute to the pillar on green transition, notably the components on circular economy and sustainable agriculture; on renewable energy, hydrogen, grid and sustainable mobility; on energy efficiency and renovations of buildings; on protection of land and water resources; and on the rail network. The pillar on the digital transformation is addressed through measures distributed across the plan and, in particular, by the components on the digitalisation of the public administration and the productive system, as well as by several measures on the digitalisation of the education and health systems. The plan covers the pillar on smart, sustainable and inclusive growth with the dedicated chapter of horizontal and enabling reforms, particularly concerning the public administration and business environment, and with the component on research and innovation. The pillar on social and territorial cohesion is addressed with the dedicated components on employment policies, territorial cohesion and social infrastructure. Territorial cohesion is also addressed by tangible and intangible investments across the Plan. The components on the health sector, its digitalisation and medical research, complemented by the reforms of the justice system and public administration, cover the pillar on health, economic and institutional resilience. Finally, the pillar on the next generation, children and youth is addressed by the component dedicated to education as well as by the component on employment policies, particularly by the measures on skills and employability.

With its focus on growth-enhancing reforms and investments, the Plan is set to improve Italy's growth potential, labour market conditions and social resilience. Investments in digitalisation and the green transition as well as education and research, coupled with reforms improving the overall business environment, such as the reform of public administration, the justice system and of the insolvency proceedings, are set to spur productivity growth in the medium and long term. In addition, targeted labour market reforms and investments to improve

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[1] 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.

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

the employment prospects, in particular of young people and women, are likely to lift labour supply and provide equal access to skills, thus support potential growth. The measures to strengthen and integrate the provision of social services, provide affordable housing and support urban regeneration, are expected to help bridge the gaps between geographic areas and social groups. A better functioning of the labour market accompanied by other measures such as, inter alia, integrated social services, and measures supporting the healthcare system should increase the economic resilience and social and territorial cohesion, and contribute to the European Pillar of Social Rights.

The Plan is not expected to do significant harm to environmental objectives. This is expected to be achieved by selecting or designing the measures in the plan in line with the do-no-significant-harm (DNSH) principle, and by substantiating DNSH compliance as part of the DNSH assessment. Investments in last-mile road connections are compensated by investments in electric charging stations. Additional guarantees have been provided for vehicles running on biomethane and for hydrogen. Investments in water irrigation provide guarantees that they will not deteriorate the status of existing water bodies and will contribute to improving it. Investments in renovations contains guarantees that demolition waste will be treated according to circular economy principles. Individual project authorisation shall respect EU and national rules and guidelines for impact assessments.

The measures included in the Plan related to the green transition account for 37,5% of the total allocation. The measures included in the Plan appear also consistent with the 2020 Commission country specific guidelines on the implementation of the Italian national energy and climate plan.[3] The plan includes a number of measures related to energy efficiency, in particular a scheme for house renovations. It also envisages direct investments to improve the energy efficiency of buildings. Italy also intends to use the Facility to boost the production and use of clean hydrogen in line with the flagship projects *Power Up* and *Refuel and Recharge* and to increase the share of renewables in transport and heating, in particular through the development of bio-methane. The Plan also focuses on reducing greenhouse gas emissions from transport, it envisages important investments to boost sustainable urban mobility, including e-mobility, as well as railway infrastructure to support modal shift, and to reduce greenhouse gas emissions in air and maritime transport and in agriculture. In addition, reforms are included to support the green transition, for instance by facilitating the authorisation of renewable power production. The Plan also supports Italy’s climate adaptation efforts, as well as seismic resilience and the quality of infrastructures, and it addresses the existing challenges on circular economy and waste management, water supply and wastewater management and biodiversity protection.

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[3] SWD(2020) 911 final

The Plan is expected to contribute to Italy's digital transformation through a wide range of measures amounting to 25,1% of the total allocation. These measures aim, in particular, at (i) improving connectivity, by accelerating the deployment of very-high-capacity networks, in particular 5G and fibre networks; (ii) fostering the digital transformation of the public administration, the justice, health and education systems as well as culture and tourism; (iii) supporting the digitalisation of Italian businesses with a particular focus on industry 4.0 technologies; (iv) strengthening human capital by improving the general population's basic digital skills and by boosting upskilling and reskilling;; and (v) supporting, although to a more limited extent, the development and deployment of advanced digital technologies.

The Plan also includes a set of reforms, notably to improve the effectiveness of public administration and foster the business environment. More specifically, the Plan includes a comprehensive reform of public employment, and measures aiming at reducing red tape and strengthening administrative capacity, especially at local level. In addition, the reform of the justice system[4] aims at strengthening its resilience, reducing the backlog and the length of both civil and criminal proceedings, with expected positive impact on the economic system. The Plan also includes measures to improve regulations in specific sectors and to remove a number of barriers to competition, including a simplification of the public procurement framework and the prioritization of competitive processes to award local public service contracts. Finally, the Plan includes, among others, measures to improve tax compliance, administration efficiency and to step up the fight against tax evasion and undeclared work.

The Plan has the potential to bring enduring structural changes and therefore to have a lasting impact on the Italian economy and society. To this end, the effective and swift implementation will be crucial. A wide range of reforms in key policy areas are expected to address long-standing barriers to economic growth. In particular, the Plan contains reforms aimed at bringing structural changes to the functioning of the public administration and justice system and at improving the overall business environment. Planned reforms and investments in the education, skills development, and research and innovation have the potential to enhance human capital and research capacities in the long run. In particular, the Plan include a reform of the teaching profession, focusing particularly on recruitment, selection, mobility and training of teachers. Reforms in sectors like transport and water management are expected to structurally improve economic efficiency, inter alia, through a more systematic use of competitive procedures to assign the services contracts.

[4] See the forthcoming Rule of Law Report, Country Chapter on the rule of law situation in Italy

The estimated total costs of the Plan are reasonable, plausible, in line with the principle of cost-efficiency and commensurate to its expected economic and social impact. Italy has submitted information about the cost estimates for all measures. The volume and quality of information about the cost estimates vary across measures. All measures financed by the recovery and resilience plan for Italy refer to costs undertaken after 1 February 2020. The measures entail non-recurrent costs, except for duly justified exceptions. The cost estimates of the Plan provide an acceptable level of assurance about the risk of double financing. Italy has committed to set a clear demarcation and to ensure complementarity between the Plan and the other European Structural and Investment Funds (ESI) for the period 2021-2027.

Italy has created a multi-level governance system to ensure an effective implementation and monitoring of the Plan and established a robust control system. The arrangements related to the governance, which have been enshrined in a legal act (Decree Law of 31 May 2021, n. 77), clearly identify the bodies responsible for the monitoring and implementation of the Plan and define their competences and duties. Relevant actions to strengthen administrative capacity, including at local level, and to simplify administrative procedures are envisaged to ensure an effective implementation and monitoring of the plan, and have also been enshrined in two legal acts (Decree Law of 9 June 2021, n. 80, and Decree Law of 31 May 2021, n. 77, respectively). The monitoring and reporting mechanisms are well defined and in line with the intended purposes. The Plan established an independent Audit Body, as well as an audit strategy, and a robust control system. The set of milestones and targets of the Italian Plan appears to be clear, realistic and with a good degree of ambition and associated to relevant, acceptable and sufficiently robust indicators. Thus, the set of milestones and targets is considered appropriate for monitoring the implementation of the Plan.

(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

An accelerating vaccination campaign and the continuing gradual easing of restrictions are paving the way for a strong rebound in the second half of 2021. The COVID-19 outbreak and the associated confinement measures to manage the pandemic pushed the Italian economy into a sharp and deep recession. Real GDP dropped by 8,9% in 2020 but is projected to rebound by

4,2% this year on the back of sizeable domestic policy support and the first stage of Next Generation EU-financed investment. In 2022, the investment and reform programme set out in Italy's Recovery and Resilience Plan will take full effect and should help propel output growth to 4,4%. The projected recovery should allow the economy to return to its pre-pandemic level by the last quarter of 2022. Domestic demand should help the economy bounce back, while exports continue to benefit from strong momentum due to an improving external outlook. HICP inflation averaged -0,1% in 2020 and base effects related to rising oil prices are set to push HICP inflation above 1% this year, before it moderates to about 1% in 2022.

The improvement in labour market conditions came to an abrupt halt with the onset of the COVID-19 crisis. Total employment shrunk by 2,8% in 2020. However, the unemployment rate dropped below the level of 2019 (9,2% vs 10,0% in 2019). Many employees were supported by policy measures, notably short-time work schemes, while a sizeable share of job seekers and newly unemployed exited the labour market at the peak of the pandemic. By contrast, the jobless rate of young people (15-24 years), who were often employed in contact-intensive services on short-term contracts and were thus particularly affected by the crisis stood at 29,5% in 2020 (vs. 29,2% in 2019), among the highest in the EU.

Poverty declined in 2019 but is likely to have worsened in 2020 because of the COVID-19 pandemic. The share of the population at risk of poverty or social exclusion fell from 27,3% in 2018 to 25,6% in 2019 (EU27: from 21,6% to 20,9%). According to ISTAT data, the percentage of households in absolute poverty increased in 2020 (7,7% in 2020 vs 6,4% in 2019). However, the social situation differs substantially among age groups, gender and nationality. Given that social spending continues to be concentrated on pensions, the poverty risk for the elderly (65+) is sizeably lower than for the average of the total population. By contrast, the young are disproportionally affected by poverty as a direct consequence of the high youth unemployment rate. Women run a somewhat higher poverty risk than men (26,6% vs. 24,5%). Non-Italian citizens face a much higher risk of poverty or exclusion than Italians (38,6% vs 24%). In addition, Roma Sinti and Caminanti face a high risk of social exclusion[5]. The pandemic, which disproportionally affects the job prospects of women and the young, is likely to have exacerbated these divergences.

The macroeconomic scenario that underpins Italy's Recovery and Resilience Plan projects a sizeable rebound of economic growth in 2021 and 2022. Real GDP is set to increase by 4,5%, according to the Stability Programme and output growth is expected to remain strong in 2022 at 4,8% before moderating over the following years. The underlying assumptions of the authorities' macroeconomic projections are considered to be plausible. The Commission projects

[5] https://ec.europa.eu/info/policies/justice-and-fundamental-rights/combatting-discrimination/roma-eu/roma-inclusion-eu-country/roma-inclusion-italy_en

a macroeconomic scenario for 2021 and 2022 that is slightly more cautious than the one of the Italian government. As regards domestic demand, the Commission forecasts a more moderate rebound in private consumption, but a more dynamic growth in investment. The macroeconomic and fiscal outlook continues to be affected by high uncertainty related to the COVID-19 pandemic and its economic consequences.

Italy's public finances have been severely hit by the COVID-19 crisis. Following a historical low in 2019 (1,6% of GDP), the government headline deficit increased sharply to 9,5% of GDP in 2020, due to the decline in revenues caused by the economic crisis and the cost of the policy response. The high borrowing requirements and the fall in GDP caused a strong increase of the government debt-to-GDP ratio, which rose from 134,6% in 2019 to 155,8% in 2020. In 2021, the government deficit is expected to increase further to 11,7% of GDP based on the Commission 2021 spring forecast, as the cost of the additional policy response is expected to more than offset the increase in revenues related to the projected recovery. The government debt ratio is projected to continue increasing to 159,8% of GDP in 2021, also considering the effect of government capital support to firms, which has an impact on government gross debt but not on the headline deficit.

Italy is deemed to face high fiscal sustainability risks in the short and medium term[6]. Short-term risks stem from the sharp deterioration of public finances in 2020 and the resulting surge in financing needs to 33% of GDP. Government financing needs are expected to remain sizeable from 2021 onwards, although on a declining trend. High risks in the medium term reflect the fact that, under the baseline assumptions, the government debt-to-GDP ratio would remain above 155% for most of the 2020s, increasing again to 158,8% in 2024 and declining to 153,4% by 2030. Alternative scenarios, both favourable and unfavourable, confirm these risks. At the same time, the implementation of reforms and investments under the Next Generation EU, notably the Recovery and Resilience Facility, is expected to have a substantial positive and persistent impact on GDP growth in the coming years, which, ceteris paribus, should contribute to strengthen debt sustainability. Ageing costs are projected to increase substantially in the medium term and decline in the long term in the baseline scenario. This contributes to reduce the fiscal adjustment needed to stabilise the debt ratio in the long term. A more comprehensive debt sustainability analysis taking into account also the high level of government debt points to high risks, resulting in an overall classification of medium fiscal sustainability risks in the long term.

High-quality investment projects and reforms are crucial to increase the growth potential and reduce the government debt ratio. The additional investments included in the plan are

[6] See Article 126(3) report (June 2021) and also the Debt Sustainability Monitor 2020 for detailed methodological aspects.

expected to significantly increase GDP, i.e. the denominator of the debt ratio. At the same time, the second-round revenue effects from the additional growth are expected to substantially contribute to increasing the primary balance. Finally, Recovery and Resilience Facility loans included in the plan imply potential savings on interest expenditure. Although no specific figures are reported on the debt trajectory, the plan highlights the importance of implementing investment projects with high growth potential in order to reduce the government debt ratio.

Italy continues to experience excessive macroeconomic imbalances, which are not expected to improve in the near term, while it is not yet possible to assess the full impact of the COVID-19 crisis. Following the publication of the 2021 Alert Mechanism Report in November 2020, an in-depth review was carried-out for Italy. Based on its findings, the Commission concluded that Italy is experiencing excessive macroeconomic imbalances. Vulnerabilities relate to high government debt and protracted weak productivity dynamics, which have cross-border relevance in a context of labour market and banking sector fragilities. As mentioned above, the government debt ratio increased sharply in 2020 and is expected to edge down only in 2022. Labour productivity increased in 2020 but long-term productivity growth remains constrained by barriers to private and public investment and by limits to growth of the most productive firms. Activity and employment rates remain below the EU average. The very sluggish productivity growth, together with low employment rates, hamper potential growth, which in turn limits the room for debt deleveraging. While the Italian banking sector became more robust and resilient in the pre-COVID-19 crisis years, challenges remain. Notably, non-performing loans declined in recent years but are still relatively high and risk increasing once temporary support measures are phased out.

The regional divide was widening before the COVID-19 crisis and risks persisting in the recovery phase. The ratio of GDP per capita between the South and the Centre-North remains lower than in 2008. This has occurred in the context of an overall loss in relative performance of most Italian regions compared to the EU average. Although GDP per capita decreased in most Italian regions, including in the North (for instance, in Lombardy in 2018 it dropped form 158% of the EU average to 126%), the drop in Southern regions is more worrisome as GDP per capita was already well below the EU average (for instance in Sicily it dropped from 77% of the EU average to 58%) (Svimez, 2020). Although the COVID-19 outbreak and the impact of the lockdown was concentrated in the North, especially in the first phase, the contraction of economic activity in 2020 is estimated to have been only slightly higher than in the South (-9,8% versus 9,0%, respectively). However, the recovery in 2021 and 2022 is expected to be higher in the Centre-North (+4,5% and +5,3% versus +1,2% and +1,4%). On the other hand, exports recorded a larger proportional drop in the South (-15,6% versus -12,2%), although they remain less important than in the North.[5]

Table 1: Comparison of macroeconomic developments and forecasts

	2019	2020	2021	2022	2023	2024	2025	2026

	COM	COM	RRP	COM	RRP	COM	RRP				
Real GDP (% change)	0,3	-8,9	-8,9*	4,2	4,5*	4,4	4,8*	2,6*	1,8*	n/a	n/a
Employment (% change)	0,1	-10,3	-10,3*	5,4	4,9*	2,2	4,7*	2,3*	1,6*	n/a	n/a
Unemployment rate (%)	10,0	9,2	9,3*	10,2	9,6*	9,9	9,2*	8,5*	8,0*	n/a	n/a
HICP inflation (% change)	0,6	-0,1	-0,1*	1,3	1,0*	1,1	1,3*	1,4*	1,4*	n/a	n/a
General Government balance (% of GDP)	-1,6	-9,5	-9,5*	-11,7	-11,8*	-5,8	-5,9*	-4,3*	-3,4*	n/a	n/a
Gross debt ration (% of GDP)	134,6	155,8	155,8*	159,8	159,8*	156,6	156,3*	155,0*	152,7*	n/a	n/a
*Source: Commission Spring Forecast 2021 (COM); * Stability Programme.*											

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

Italy entered the pandemic with socio-economic vulnerabilities, which could further aggravate once emergency measures are phased out. Productivity and economic growth were sluggish, constraining the reduction of the high government debt-to-GDP ratio. High structural unemployment and low labour market participation, notably of women and youth, also contribute to constrain growth potential, while social and territorial disparities persist. The financial sector remains subject to some vulnerabilities and inefficiencies.

Productivity growth has stagnated in the last two decades, notably due to a negative contribution of the service sector, small firms and some Southern regions. While labour productivity in manufacturing increased (although less than in peer countries), the rising importance of the service sector was accompanied by poor productivity performance. Moreover, productivity growth was concentrated among bigger exporting firms, while the large share of small enterprises hampers higher productivity levels and growth.[7]

Weak productivity growth is also linked to low private and public investment. Investment did not fully catch up yet with the levels preceding the previous crisis and remains below peer countries. Public investment declined mainly at the local level over the last years and particularly

[7] 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, JRC, 2020.

in Southern regions. Moreover, the composition of investment is skewed towards manufacturing, while remaining relatively limited for professional services and innovation, especially in the South. Italy is among the lagging countries in terms of intangible investment among EU peers. Furthermore, the largest gap to its peers is in R&D intensity. This discrepancy can be explained by the structure of the economy, namely by the considerable weight of sectors with low intangible intensities such as tourism. Additionally, the discontinuity of policies to support knowledge transfer and innovation ecosystems has so far hampered the innovation performance.

The very high level of government debt and the composition of public spending have constrained public investment and hampered growth-enhancing spending. Government spending remains concentrated towards old-age pensions, while expenditure for R&D and tertiary education remains low. Public investment remains below pre-crisis levels creating an infrastructural gap. The fiscal framework is complex, and responsibilities over revenue and expenditure across levels of government remain asymmetrical, creating problems of incentives and monitoring. The high level of public debt requires a particularly prudent and effective management of public finances, both on the expenditure and on the revenue side, also with a view to improve their composition.

A number of structural barriers hold back investment and productivity growth. The business environment is not sufficiently supportive while inefficiencies in the public sector, particularly concerning the weak administrative capacity, persist. There is ample margin to improve the innovation performance and digitisation of the productive system. Weak human capital, especially concerning techno-scientific fields and at management level, as well as skills mismatches remain. The high tax wedge and the uncertainty of the policy framework also contribute to holding back investment. The allocation of capital is not fully efficient, constraining access to finance notably for start-ups and small firms, whose use of non-bank financing remains limited. A transformative and forward-looking research, innovation and diffusion policy is crucial to strengthen Italy's productivity growth and competitiveness.

The business environment needs to become more growth-supportive. The incomplete implementation, uncertainty and the complexity of the public procurement and concessions framework undermines the ability of administrations to use tenders efficiently, especially at local level, and weighs on planning decisions of private firms, especially SMEs. Late payments by public administrations, including at local level, and long tendering procedures[8] also discourage businesses to participate in public tenders (some 30% of tenders only receive one bid). The framework for local public services (e.g., transport, utilities) does not always guarantee that competitive tenders are prioritised over direct awarding or in-house solutions, resulting in inefficiencies of the services management. Furthermore, the length, complexity and

[8] Public tendering procedure last 200 days in Italy compared to some 120 days on average in the rest of the EU.

unpredictability of administrative procedures, remaining restrictions to competition and some sectoral overregulation weigh on firms' productivity and competitiveness, discouraging investments. This is particularly pronounced for business services, regulated professions, retail, collaborative economy, energy and limited authorisations ("concessions") for the use of public goods.

Italy's public administration remains subject to structural weaknesses in terms of efficiency and effectiveness. The Italian public sector workforce is one of the oldest and less skilled in EU, with about half of the staff set to retire in the next 15 years. Administrative capacity remains weak, especially at local level, and the level of digitisation is low, both concerning internal procedures and the provision of public services. Better strategic planning capacity, monitoring and evaluation mechanisms, and use of evidence-based policymaking instruments would further enhance the quality of public policies. Italy's public administration has been subject to numerous reforms, whose implementation was however often incomplete and ineffective.

Inefficiencies in the justice system continue to weigh on the business environment. Despite recent improvements, the estimated time needed to resolve civil and commercial litigious cases remain among the highest in the EU, with ample room for more efficient management and limiting unfounded appeals. According to the 2020 EU Justice Scoreboard, the disposition time, which provides an estimate of the duration of the proceedings, in Italy is equal to 2 655 days for civil and commercial litigious cases considering all instances (against a EU median of 549 days) and 1 367 days for criminal cases considering all instances (against a EU median of 340 days); as to administrative cases, the disposition time is equal to 1 679 days considering all instances (against a EU median of 469 days) The anti-corruption framework could be further strengthened, especially considering that the low efficiency of criminal justice at appeals level continues hampering an effective fight against corruption. Insolvency proceedings in Italy are comparatively lengthy and costly. The entry into force of a reformed insolvency framework has been postponed to September 2021.

Low education outcomes, not sufficient acquisition of skills and regional gap in educational attainment level remain a major growth impediment. Basic skills proficiency is below the EU average, with marked differences between regions and types of school. Skills and educational attainments show a clear North-South gap.[9] Early school leaving is high, particularly for non-EU born pupils. Inadequate digital equipment and infrastructure and limited digital training for teachers and students hamper innovation in education, especially in rural areas. Tertiary

[9] Hippe, R., Jakubowski, M. and De Sousa Lobo Borges De Araujo, L., Regional inequalities in PISA: the case of Italy and Spain, , 2018, JRC109057.

educational attainment is low, and the non-academic tertiary sector is underdeveloped. Increasing the attractiveness of higher education, including in science and technology (STEM) disciplines, particularly for women, could help reduce skills mismatches and increase employment. Limited access to managerial and technical skills is also a major issue for Italian SMEs. More affordable quality early childhood education and care and longer school time could help improve learning outcomes as well as women's labour market participation. Low rates of lifelong learning both in the private and the public sector make it hard to adapt workers' skills to labour market evolutions, including the green and digital transitions.

Italy's tax system suffers from long-lasting weaknesses in terms of efficiency and growth-friendliness, further exacerbated by tax evasion. The tax wedge on labour remains among the highest in the EU, while other sources of revenue less detrimental to growth are underused. The high level of tax evasion erodes government revenues and increases the administrative burden on compliant firms and citizens, worsening the distortionary impact of the tax system. As concerns other sources of revenues, the use of public concessions for public goods is suboptimal, generating a significant loss of revenues. The property tax base is outdated, eroding government revenues and hampering proportionality. There are numerous tax expenditures, which in some cases provide weak incentives to energy efficiency, discourage work by second earners or imply very high marginal tax rates. The high complexity and the frequent changes of the tax regime increase compliance costs, resulting in a high number of tax litigations and further complexity of the business environment. Although revenues from environmental taxes are above the EU average, their current incentive structure does not promote transitioning to cleaner technologies. Public investments in clean energy technologies have remained at same level during 2010-2018 period, while private investments in the same area have dropped nearly 50% from 2010 to 2016.[10]

Pockets of vulnerability remain in the banking sector, while firms' limited access to non-bank finance leaves them vulnerable to shocks to the banking sector. The resilience of the Italian banking sector has improved compared to the double-dip recession in 2008-13. The average capitalisation has increased and the stock of non-performing-loans (NPLs) has decreased, albeit remaining above the euro-area average. The liquidity and borrower relief measures granted in response to the pandemic have contributed to an expansion in lending, in particular to corporates, compared to 2019 and have mitigated the impact of the economic downturn on asset quality. However, the risks of a rise in NPLs and a further deterioration of banks' profitability once these support measures will be phased out need to be considered in order to avoid potential cliff edge effects. The sovereign-bank nexus remains present and banks

[10] JRC, SETIS Research and Innovation dashboards. Strategic Energy Technologies Information System. https://setis.ec.europa.eu/publications/setis-research-innovation-data

recently increased the holdings of domestic sovereign debt in their portfolios. Access to finance has been a long-standing barrier to firms' investment, notably for smaller and innovative firms, which often do not have sufficient collateral. In this context, access to non-bank finance needs improvement as private equity and venture capital are below the EU average and financing for start-ups remains also low. Sustainable finance, which could facilitate private investment and act as a catalyst for economic recovery and the transition to a green model of economic growth, is still under-developed.

The labour market continues to face structural challenges that limit the growth potential of the Italian economy. Prior to the pandemic outbreak, the Italian labour market registered one of the lowest employment rates in the EU (63,5% vs EU average 73,1%) and one of the highest unemployment rates (10% vs EU average 6,7%). Joblessness remains widespread, especially among the young, and the participation rate of women, already among the lowest in the EU inter alia due to an insufficient supply of childcare and long-term care services, dropped further in 2020, from 56,5% to 54,7% (from 67,9% to 67,5% for the EU average). The overall impact of the pandemic shock was cushioned by the measures implemented by the government, but it still put a disproportionally large burden on women and young people, whose employment relationships are often less secure, only temporary and more precarious. Nevertheless, an overall comprehensive strategy on women and young people is still missing while additional reforms remain needed. The risk of in-work poverty remains above the EU average (11,8% vs 9,2%). Thus, Italy forgoes a substantial part of its labour force potential and entrenched youth unemployment (or underemployment) prevents many young people from building up necessary skills and improving their employability. Effective active labour market policies (ALMP) could help address these challenges. However, the activation component of the minimum income scheme, which requires beneficiaries to actively take part in programmes of socio-professional reintegration, was temporarily suspended in 2020. Undeclared work remains a serious concern. The shadow economy is estimated at 11,9% of GDP in 2018[11], accounting for roughly 3,7 million irregular job positions (-1,3% compared to 2017), with especially critical sector conditions in services to persons, agriculture, construction, trade, transport, housing and food services.

Bridging the regional divide is set to support productivity and growth. The recovery phase will be key in this respect, as shown by the previous crisis following which the South was still suffering from the largest drop in economic activity and a weaker recovery (Svimez, 2020). The South lags behind economically, as well as in terms of infrastructure and institutional quality. Productivity and innovation are lower in the South. Competitiveness is also considerably worse in Southern regions, including due to weak transport infrastructure. On a positive note, the large

[11] Istat (2020), Economia non osservata nei conti nazionali, 14 Oct 2020, https://www.istat.it/it/archivio/248596

recourse to smart working during the pandemic appears to contribute to a (temporary) re-population of Southern regions especially by young people ("South working"). Moreover, the green transition can be an economic opportunity for the South, which has for instance a relatively high share of organically farmed land and renewable energy production[12]).

Promoting social cohesion remains a challenge that might face even more difficulties due to the pandemic. Workers with expiring temporary contracts and to a lesser degree the self-employed and job seekers have so far borne the brunt of the crisis. By contrast, the temporary extension of the eligibility and duration of short-time work schemes (Cassa integrazione guadagni – CIG) as well as the imposition of a general and temporary dismissal ban have shielded most other employees, in particular those with permanent contracts, from job losses. Further measures, including social transfers, also helped support household disposable income. The pre-existing tax-benefit system and the emergency policy measures have cushioned about two thirds of the shock on households' income, with the short-time work schemes absorbing about 29% of the market income shock.[13] However, the impact of the downturn is starting to be felt. In-work poverty was already high before the crisis and it remains marked by large regional differences.

The pandemic has put the healthcare system under substantial stress and revealed its vulnerability to shocks. Prior to the COVID-19 pandemic, the Italian healthcare system was performing better than those in many other Member States (e.g. by avoiding premature deaths or hospital admissions for some chronic diseases and low infant mortality). The good performance was achieved despite years of low levels of investments in physical infrastructures and human resources (with health spending below the EU average, but with a relatively high proportion of expenditure for prevention). Moreover, healthcare investment was unevenly distributed across regions, resulting in disparities of accessibility and the quality of health care provision across regions. The outbreak of the COVID-19 pandemic made clear that further action is needed to improve the resilience of the healthcare system to cope with future potential health crises and to respond to the growing needs of an ageing population with high a prevalence of chronic diseases. Moreover, the COVID-19 pandemic disrupted the provision of care services and hampered the access to healthcare, generating a backlog of care activities. Thus, improving healthcare provision, tackling the backlog of care activities, increasing efficiency and reducing the

[12] Country Report Italy 2020, European Commission.

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

disparities in health care quality across regions and between rural and urban areas are key objectives.

2.3 Challenges related to the green and digital transition

2.3.1 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 shall contribute to achieving the 2050 climate neutrality objective, and the 2030 energy and climate targets, taking into account the Italian national energy and climate plan. 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.

GHG emissions

Italy still has to reduce its GHG emission by 15 percentage points to meet the 2030 climate and energy targets, which might be further revised according to the new climate objectives defined by the green deal**.** Since 2005, Italy already reduced its GHG emission by 18%, but needs to meet the 33% binding target by 2030. Italy's National Energy and Climate Plan (NECP) is in line to achieve this target under the Effort Sharing Regulation. The assessment of planned policies and measures in the NECP point to a reduction of 34,6% by 2030, which should be sufficient to meet the target.

The green transition in Italy would have received a further boost from rapid phase-out of the fossil fuel subsidies identified in the NECP. On the basis on the detailed available analysis to existing (fossil) energy subsidies, there is scope to devise specific action to be accompanied by measures mitigating the risk of households' energy poverty.

Renewable energy

Measures are needed to meet 2030 target on renewable energy. In 2019, Italy registered a 18.2% share of renewable in gross final energy consumption, with a 9% share in transport (against an obligation of 14%), 35% in energy generation (against a projected share of 55%) and 19,7% in heating and cooling (with an average annual increase in line with Member States' obligation). While the 2020 target (17%) was met already in 2014, the renewable share in Italy has been substantially stagnating in the last few years (it was 18,3% in 2017). To reach the 30% share of renewables in gross final energy consumption by 2030 as stipulated in the NECP, Italy needs to swiftly adopt additional policies and measures, streamline permitting procedures to reduce administrative burden, revamp and repower existing installations. The planned increase penetration of renewables in the electricity and transport sectors represents an important challenge and should thus be supported by adequate policies.

Energy efficiency

The building sector has a central role in meeting the energy efficiency targets. Italy sets sufficiently ambitious targets for energy efficiency in the NECP (with a contribution to the 2030 target of 125 Mtoe in primary and 103,8 Mtoe in final energy consumption against current 2019 levels of, respectively, 145 Mtoe and 115 Mtoe)[14]. The building sector is responsible for more than one third of total energy consumption in Italy. Most of the 14,5 million Italian buildings (ISTAT) were built before criteria for energy savings and corresponding legislation were adopted. In the context of the 2030 building renovation objectives, Italy aims at an annual deep renovation rate of 2,9% in the non-residential sector, excluding hospitals, and to accelerate by 0,7% for the residential sector. Reducing administrative burden attached to national incentives for energy efficiency renovations can make these more accessible and attractive to citizens and SMEs. Italy has notified its long-term renovation strategy, in line with the Energy Performance of Buildings Directive in April 2021.

Sustainable transport

Investments to decarbonise transport are key to reducing greenhouse gas emissions. Indeed, transport is responsible for over 30% of total GHG emissions by Italy (above the EU average). Decarbonisation of transport is also important to decreasing dependency on fossil fuels and energy import, and improving air quality and human health. Three infringements of EU Directives on air quality are open against Italy, notably in the Po Valley. In 2018, it is estimated there were 920 years of life lost/105 residents from particulate matter (PM2.5) and 183 years of life lost/105 residents from nitrogen dioxide (NO2). Transport accounts for a very large share of CO2, NO2 and particulates emissions due to high road traffic share (over 80 % of trips made by private car and 37 hours lost per driver per year) and inefficient internal combustion engines. Italy is lagging behind in the roll-out of Zero Emission Vehicles (ZEV) and related infrastructure, that needs a substantial boost to keep pace with the NECP ambition (6 M EV before 2030) and lags also in providing adequate cycling infrastructure in cities. Technologically obsolete and very polluting vehicles make up 59% of the public transport fleets (notably buses) in 2018, specifically in Southern Italy, calling for the deployment of cleaner technologies in line with the ambitions of the NECP). New registrations of electric vehicles (EV) are lower than in peer countries (4% EU average, albeit +180% in 2020). The same applies to alternative vehicles recharging and refueling infrastructure; ZEV only represent 0,1% of the total vehicle fleet. If managed more efficiently, ports can play a key role in making Italy a sustainable logistics hub linked via long distance rail connections and using digital cargo clearance. However, the growth of Italian ports has remained sluggish. The South lags behind in "sustainable infrastructure" with

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

an index of 83% of the national average for electrified railways[15] and 21% for multimodal logistic platforms. The quality of regional and suburban railway infrastructure endowment and services is still lagging behind.

Circular economy and water resources

Important regional disparities persist in waste management and the circular economy. Italy does not have yet a national strategy for circular economy[16]. Italy performs above the EU average for resource productivity and investment in the circular economy, although regional disparities are significant. Overall, Italy is not considered at risk of missing the EU 2020 targets for reuse/recycling of waste but could face challenges to meet the 2025-30 objectives. However, some regions in the Centre-South display poor management, low separation and an excessive share of landfilling. A national waste programme is under adoption and complementarity needs to be ensured with regional waste plans. National legislation has set a very ambitious target of achieving 60% sorted waste collection by 2030.

Insufficient investment is being made in water infrastructure in the South, while scarcity and drought risks continue. The fragmentation of the sector in terms of different actors (i.e. public administration, the regulator ARERA, concessionaires, public-private operators) represents a barrier to investment[17]. A total of 895 agglomerations have been found to be in breach of the EU Urban Waste Water Treatment Directive affecting a population of over 26.7 million people, and fines are currently being paid for 68 of them. The cost to comply with urban wastewater treatment requirements has been estimated by the OECD at some EUR 34 billion until 2030 for Italy as a whole. Italian water consumption per capita is among the highest in the EU. Italy is also one of the EU countries with the highest recourse to irrigation for agricultural purposes. While agriculture accounts for around 50% of water consumption, charges for the use of water in agriculture are very low, especially in the South. This suggests that there is much scope for using price incentives to better align supply and demand. Governance reforms, including for capacity building projects for municipalities, are needed and public-private partnerships need to be strengthened to attract also private investment, especially in Southern regions. There are important investment[18] needs in waste prevention, public reuse, and separate collection as a precursor to quality recycling and recycling capacity.

Biodiversity and climate change mitigation require due attention. Italy is particularly vulnerable to climate change, hydrogeological events and seismic activity. Over 7 000 Italian

[15] Data for 2019 from Svimez Report 2019 (based on Eurostat data).

[16] Nevertheless, there are a number of national and regional activities taking place, notably the so-called “Collegato Ambientale 2020” on “Green New Deal and ecological transition of the country”.

[17] Comitato di esperti in materia economica e sociale , Iniziative per il rilancio “Italia 2020-2022” , Giugno 2020. Available at https://www.governo.it/sites/new.governo.it/files/comitato_rapporto.pdf .

[18] The Eunomia & COWI study (2019) for the European Commission estimated capital and investment costs requirements in waste in Italy for the period 2021-2027 amounted to 2.3 billion EUR.

municipalities are at high risks from landslides and flooding (more than 90% of the total) and in terms of the surface area this covers around 50 000 km2 of the national territory, one sixth of the total. Investment in prevention for hydrogeological risks (in line with EU Flood Risk Plans) is needed to reduce emergency expenditures.

10% of the assessments for habitats and 43% of the assessments for species of EU interest indicate a favorable conservation status. And from 2000 to 2020 the population of farmland birds in Italy has decreased by 28,8%.[19] The categories of habitats that show the worst conservation status are freshwater habitats, grasslands and dunes. These data show an urgent need to invest in the restoration of nature in Italy. To contribute to the fight against biodiversity loss and climate change, investments are also needed to increase the quantity and quality of forests, with appropriate biodiversity-friendly afforestation and reforestation and closer-to-nature management practices. Investment in soil decontamination of former industrial sites and other polluted areas remains necessary inter alia to promote biodiversity and the health of the surrounding communities, in line with EU and national legislation. Furthermore, green infrastructure and other nature-based solutions are to be preferred for flood and drought control before 'traditional' hard infrastructure. Restoration of healthy ecosystems is a priority for agriculture, which is the main source of pressure and threats on Italian natural habitats.

The share of SMEs offering green products or services, investing in equipment linked to clean technologies pollution control is below EU averages. In 2020, among Italian firms that grew their revenues in the past three years, the share of eco-innovative ones is equal to 10% - considerably lower than the EU average of 30%. This is in line with the lower number of sustainable activities performed, such as resource savings or recycling. However, it contradicts the higher than the EU average values related to green patenting. Despite the low eco-innovative attitude, Italian firms may find particularly convenient to patent their activities in green sectors[20]. Attention to environmental sustainability increases with firm's size, with, for instance 91% of firms with 50 or more employees separating their waste collection. 71% controlling energy use and 56% water use[21]. "Transizione 4.0" offers incentives to support the circular economy investments of firms.

The table below gives an overview of Italy 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.

[19] According to the data provided by Italy in 2019 in the context of the 6-year reporting under the Birds and Habitat Directives.

[20] Benedetti Fasil, C., Del Rio, J.C., Domnick, C., Fako, P., Flachenecker, F., Gavigan, J., Janiri, M., Stamenov, B. and Testa, G., High Growth Enterprises in the COVID-19 Crisis Context, 2021, JRC124469

[21] ISTAT, (2020). "Statistica sperimentale. Comportamenti d'impresa e sviluppo sostenible", available at: https://www.istat.it/it/archivio/239170

	National targets and contributions[22]	Latest available data	2020	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (%)	-19 (2019)	-13	-33	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	18,1 (2019)	17	30	Sufficiently ambitious (29% is the result of RES formula)
	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	145 (2019)	158	125,1	sufficient
	Final energy consumption (Mtoe)	115 (2019)	124	130,8	sufficient
	Level of electricity interconnectivity (%)	8,8	8	10	n.a.

2.3.2 Digital dimension

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

Improving the digital skills of the population and workforce is a priority for Italy. In the Digital Economy and Society Index (DESI) 2020, in relation to the human capital dimension, Italy ranked last in the EU. The country is faced with significant shortcomings in both basic and advanced digital skills, which are reflected in an increasing digital divide amongst the population and a low capacity to develop and deploy digital technologies. Only 42% of people aged 16-74 years have at least basic digital skills (56% in the EU-27) and only 22% have above basic digital skills (31% in the EU-27). Only 1,3% of Italian graduates are ICT graduates (the lowest in the EU, with the EU-27 average being 3,8%), while evidence indicates significant skill mismatches, especially in areas such as cloud, cybersecurity and artificial intelligence. Some 48% of the

[22] Sources:
i) Assessment of the final national energy and climate plan of Italy, SWD (2020) 911 final.
ii) Eurostat data for specific years.

workforce does not have at least basic digital skills, which are needed in the large majority of jobs today[23] and, in 2020, only 15% of Italian enterprises offered training to their employees to develop/upgrade their ICT skills, a figure that decreased by almost 4 percentage points compared to 2019[24]. In order to address the above shortcomings, the education of advanced digital skills at post-graduate level is to be improved[25]. Although Italy holds an above average proportion of postgraduate programmes including, among the others, content on artificial intelligence, cybersecurity or data science, the proportion of university places teaching advanced technologies offered to students is still below the EU average.[26] In terms of policy response, Italy launched its first Digital Skills Strategy in July 2020, completed with an Operational Plan in December 2020. The Plan set some ambitious targets for 2025, such as such: reaching 70% of the population with at least basic digital skills and closing the gender gap, doubling the share of population with advanced digital skills and increasing by 50% in the share of SMEs using ICT specialists. The launch of the strategy and its accompanying plan, building on the pre-existing project “Repubblica Digitale” gave impetus to a number of initiatives for the training, reskilling and upskilling of citizens, students and workers during 2020, by also leveraging on partnerships between schools, universities, technology transfer centers and industry. Measures for the development of digital skills are also part of ‘Transition 4.0’ (Transizione 4.0), which includes the tax credit for ‘Training 4.0’.

Despite being one of the largest EU economies and accounting for a significant share of the EU ICT sector, the level of digitisation of businesses remains low. The Italian economy is mostly characterized by small and micro-enterprises, with a significant presence of family-owned businesses, with low levels of digital intensity and of digital knowledge. In DESI 2020, Italy ranked 22nd in the EU (out of 28 countries) in the EU on the Integration of digital technology by businesses. Latest data shows that Italy is catching up when it comes to the digitisation of its enterprises, but the overall picture is scattered. Italy is above the EU average as regards the share of SMEs with at least a basic level of digital intensity[27] (69% versus 60% in the EU-27) and the percentage of businesses using cloud services[28] is relatively high (38% in Italy,

[23] Digital Economy and Society Index 2020.
[24] Eurostat - Community survey on ICT usage and eCommerce in Enterprises, 2020.
[25] Righi, R., Lopez Cobo, M., Alaveras, G., Samoili, S., Cardona, M., Vazquez-Prada Baillet, M., Ziemba, L.W. and De Prato, G., Academic Offer of Advanced Digital Skills in 2019-20. International Comparison,2020 JRC121680.
[26] Gomez Losada, A., Lopez Cobo, M., Samoili, S., Alaveras, G., Vazquez-Prada Baillet, M., Cardona, M., Righi, R., Ziemba, L.W. and De Prato, G., Estimation of supply and demand of tertiary education places in advanced digital profiles in the EU, 2020JRC121683.
[27] The digital intensity score is based on counting how many out of 12 selected technologies are used by enterprises. A basic level requires usage of at least 4 technologies (Eurostat, Community Survey on ICT usage and eCommerce in Enterprises, 2020).
[28] Enterprises purchasing at least one of the following cloud computing services: hosting of the enterprise's database, accounting software applications, CRM software, computing power (Eurostat, Community Survey on ICT usage and eCommerce in Enterprises, 2020).

26% in the EU-27). However, gaps remain in other areas, such as the use of big data[29] (9% in Italy versus 14% in the EU-27), and of Artificial Intelligence[30] (18% in Italy versus 25% in the EU-27), while the gap between Italy and the EU average is widening regarding e-commerce (only 11% of Italian SMEs sell online, well below the EU-27 average of 17%)[31].–The National Plan 'Transition 4.0' has been one of the main instruments used to support the digital transformation of Italian enterprises and has substantially evolved over the years. Tax deductions for investment in capital goods (i.e., super- and hyper-depreciation) have proved to be effective in stimulating digital uptake. However, these measures were mainly used by medium and large enterprises, with an unbalanced uptake in the North of Italy. Among other initiatives, in order to further support SMEs towards the digital transition, the government in collaboration with stakeholders has created and gradually expanded a network composed of Competence Centres, Digital Innovation Hubs and "Punti Impresa Digitale"[32]. A recently launched portal (Atlante 4.0) provides a mapping of the centres that, across the country, provide technology transfer and digital transformation services. Moreover, several initiatives of the Digital Skills Strategy leverage on the network of technology transfer centers to support training.

In the DESI 2020, Italy ranked 19th in in the EU on Digital public services. During 2019 and 2020, Italy accelerated the implementation of key e-government projects and made good progress in the offer of digital public services, but the level of online interaction between public authorities and the general public remained very low: in 2020, only 36% of Italian internet users used e-government services (64% in the EU-27)[33]. In July 2020, the government adopted the 'Three-Year Plan for Information Technology in the Public Administration 2020 – 2022', an update of two previous plans. The plan addresses a range of areas: from the reinforcement of the digital infrastructure, to data interoperability, enabling platforms and cybersecurity. The "Simplification Decree" issued in July 2020 further promoted digitisation process in the public administrations, by mandating–the adoption of the main eGovernment platforms by all public administrations by the 1st quarter 2021: this includes the eIDAS-compliant e-identity system as the only access method to eGovernment services, PagoPA for all payments to public sector, and the implementation of mobile version of eGovernment services on the app "*IO*". Although the implementation of the Simplification Decree is still ongoing, the take-up of digital identity (SPID) and app "IO" by users has greatly increased during 2020 (to 20 million and 11 million respectively in April 2021), also thanks to their mandatory use in some governmental financial incentives schemes. As an accompanying

[29] Eurostat, Community Survey on ICT usage and eCommerce in Enterprises, 2020.
[30] Enterprises using at least 2 AI technologies (European enterprise survey on the use of technologies based on artificial intelligence by Ipsos and iCite, 2020).
[31] Eurostat, Community Survey on ICT usage and eCommerce in Enterprises, 2020.
[32] In 2020, Italy selected 45 national poles in view of the network of European Digital Innovation Hubs for the deployment of emerging technologies (supported in the context of the Digital Europe Programme).
[33] Eurostat - Community survey on ICT usage in Households and by Individuals.

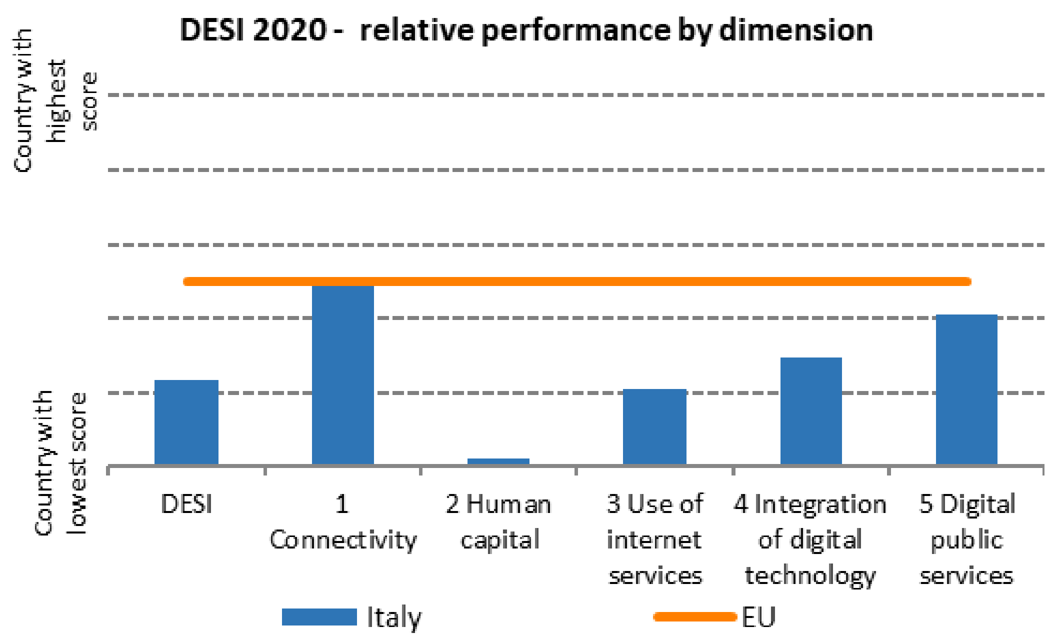
measure, a "Fund for Innovation and Digitalization" was established to support municipalities and local authorities in creating digital services.

Italy should close the gaps in terms of coverage and take up of gigabit connectivity, which undermines digital inclusion and the development of a competitive digital business ecosystem. In DESI 2020, Italy ranked 17th among the EU-28 countries. The pace of fibre deployment decreased between 2019 and 2020[34]. Coverage in fixed Very High-Capacity Networks (VHCNs) was relatively low in July 2020 and below the EU average (with only 34% of households covered, against an EU average of 59%). Broadband take-up is well below the EU average with limited progress in the last years. While Italy performs well above the EU average in terms of 5G readiness (60% vs EU average of 39%), only 8% of populated areas are covered by 5G mobile networks (against 14% at EU level)[35]. The Ultra-Broadband (BUL) Plan has been the key instrument to boost connectivity in the country. Phase I is focused on the coverage of Next Generation Access (NGA) white areas[36]; despite an acceleration in 2020, delays - due also to lengthy procedures for obtaining permits for civil works and to the payment of an unusually high first connection fee - still affect the full achievement of the objectives of the Plan. Phase II includes network deployment measures in NGA grey areas[37], support for demand (in the form of vouchers for families and businesses to acquire new connecting technologies[38]) and Gigabit connectivity to socio-economic drivers ("school plan"). Moreover, in 2020, the "Simplification law" introduced, among others, measures to simplify 5G deployment[39]. Overall, it is important to accelerate the deployment of VHCNs, to address bottlenecks and simplify administrative burden, while strategically associating the National Broadband Plan to the development of over-the-top data-rich services and to industrial recovery, through high-capacity digital connectivity for industrial districts and other socio-economic drivers. It is also essential to support high-capacity digital connectivity and take-up in white areas where, despite the EU 2020 broadband objectives and significant public investment, unsolved last-mile connectivity issues still prevent many residents and scattered houses from having high-capacity digital connectivity. Fiber To The Premises (FTTP) only covers 8,4% of households in rural areas (against an average of 25% at EU level)[40].

Regarding advanced digital technologies, Italy is a key player in the race to EU technological sovereignty and can count on a number of resources and initiatives that

[34] Fibre-to-the-premises – FTTP - coverage passed from 24% covered in July 2018, to a good 30% in July 2019 but only 34% in July 2020.
[35] Broadband coverage in Europe studies for the European Commission by IHS Markit, Omdia and Point Topic.
[36] NGA white areas are areas where no NGA network capable to reliably provide at least 30 Mbps download is present or planned in the next three years from the moment of publication of the planned aid measures.
[37] NGA grey areas: areas where there is one infrastructure able to support speeds above 30 Mbps download present or planned in the next three years from the moment of publication of the planned aid measure.
[38] The Voucher plan was launched during 2020.
[39] Law Decree 16 July 2020, n. 76, on Urgent measures for simplification and digital innovation.
[40] IHS Markit, Omdia, Point Topic and VVA, Broadband coverage in Europe studies. Figure referred to 2020.

should be better exploited and leveraged. The country is one of the eight hosting sites of a pre-exascale class computer funded by the EuroHPC Joint Undertaking. Italy is involved in a number of European initiatives in areas such as cloud and microelectronics[41] and, in 2019, the government launched two new national strategies, one on Artificial Intelligence and another on Blockchain. Italy should build on these strengths to scale-up knowledge-intensive industries, create jobs and raise its competitiveness, also with a view to promote Europe's open strategic autonomy in key sectors. The highest shares of high-growth enterprises are indeed found in knowledge-intensive and medium-high tech manufacturing industries[42]. The strategy 'Italy 2025', launched in December 2019, also announced a number of initiatives to support the development and uptake of key technologies, such as Artificial Intelligence, robotics and cybersecurity. The strategy also indicates environmental sustainability of ICT solutions as one of the guiding principles. The national plan for industry 4.0 offers a range of support instruments to address the increasing digitalisation of the energy sector.



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

[41] For example, participation in the first Important Project of Common European Interest (IPCEI) on microelectronics; signatory of the joint Member State Declaration 'Building the next generation cloud for business and public sector in Europe'. At the end of 2020, Italy joined GAIA-X (a project for an open federated data infrastructure) and, together with France, Germany and Spain proposed the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS) to finance the development of the next generation of cloud infrastructures and services in the EU.

[42] Flachenecker, F., Gavigan, J., Goenaga Beldarrain, X., Pasi, G., Preziosi, N., Stamenov, B. and Testa, G., High Growth Enterprises: demographics, finance and policy measures, 2020, JRC119788.

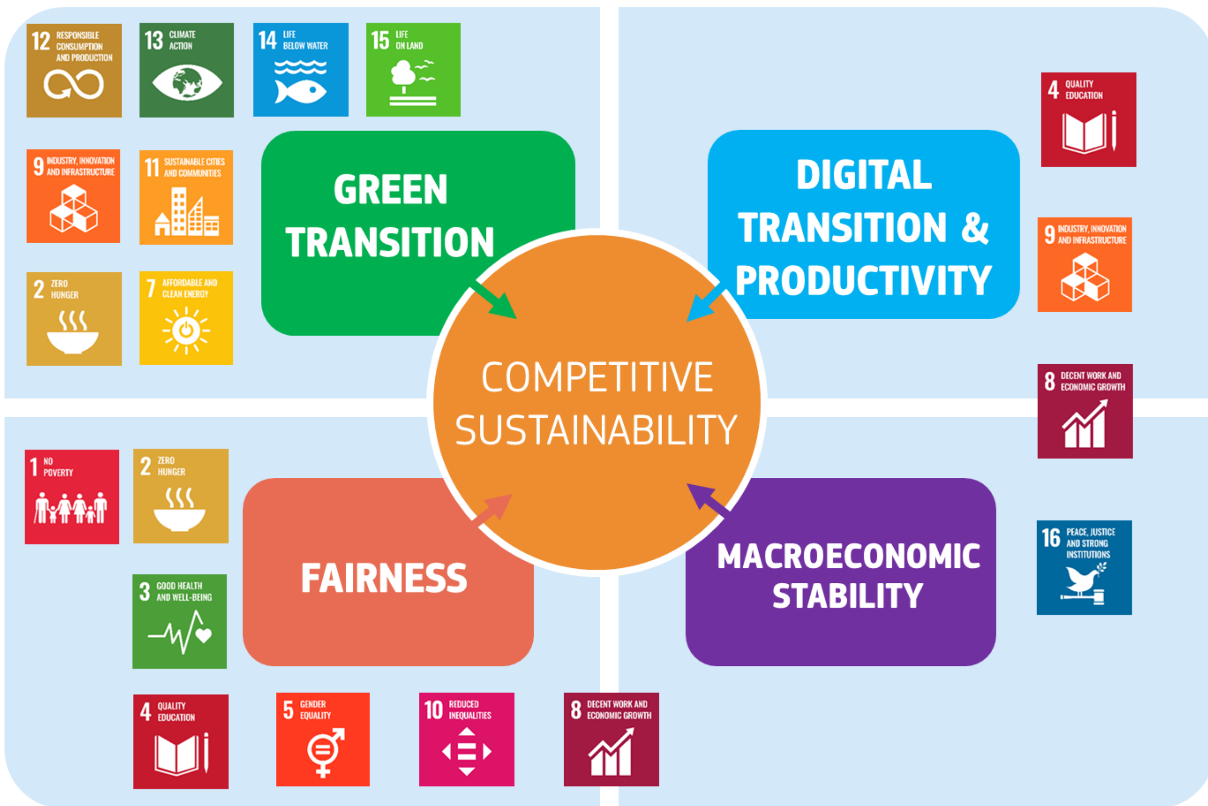
Box 2.3.3: **Progress towards the Sustainable Development Goals**

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

Italy is making progress in achieving the United Nations' Sustainable Development goals. Over the past five years, progress has been relevant in most of the UN Sustainable Development Goals (SDGs). In this context, Italy's initiative on well-being indicators (based on the well-being evaluation scale -WES) and on SDGs at national and regional level is a European best practice supported by civil society organisations (Italian Alliance for Sustainable Development – ASVIS).[43]

[43] Documento PNRR 2021 (asvis.it), 27.05.2021.

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



Green Transition

In recent years, Italy achieved positive results on many of the SDGs related to environmental sustainability. Significant progress was registered in the SDG 13 (Climate Action), particularly concerning Climate Mitigation. Italy also performed well on the SGD 7 (Affordable and Clean energy), in particular under the domain of Energy consumption. Progress has been achieved towards the SDG 12 (Responsible consumption and Production) where Italy scores better than the EU27 average in most of the indicators. Finally, between 2013 and 2018, Italy improved its performance also on SDG 6 (clean water and sanitation) and SDG 11 (sustainable cities and communities).

The Plan includes a number of measures that are expected to support Italy in further speeding up the achievement of the green transition related SDGs. To this end, the components related to the green revolution, ecological transition, and sustainable transport are particularly relevant as well as the measures on energy efficiency of private and public building included in other components of the Plan.

Fairness

Italy has made limited progress towards SDG1 (no poverty) with some indexes worsening between 2013 and 2018. In 2018, Italy scored worse than the EU average in all the indicators concerning multidimensional poverty. Italy underperforms in the dimensions related to SDG 4

(Quality Education) with the educational outcomes achieved by Italian students being below the EU average, and subject to territorial disparities. Italy underperforms also in the dimensions related to SDG 5 (gender equality), scoring worse than the EU average on gender gap in education and employment whereas the gap in leadership position scores better than the EU average. While SDG 10 (Reduce Inequality) presents a mix picture, some progress was made in achieving SDG 3 (good health and well-being) over the last years, with the country scoring better than the EU average on "healthy life", "life expectancy at birth" and "share of people with good or very good perceived health".
The Plan's components related to employment policies, social and territorial cohesion, social institutions and the health system are expected to significantly contribute in improving Italy's performance concerning the SDGs related to fairness. These components are complemented by targeted measures on education and skills focusing on women and gender equality.

Digital transition and productivity
Italy 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 since 2013, the investment share of GDP as well as the gross domestic expenditure in R&D remain well below the EU averages. Similarly, Italy slightly increased the share of personnel employed in R&D over the same period, but it is still lagging behind in comparison with other European peers.
The Plan is expected to largely contribute to supporting Italy to speed up progress concerning the digital transition and productivity. Particularly, measures to boost the digitalisation of infrastructure and services are present in almost every component of the plan. Significant investments are envisaged to digitalise public administration, the justice and education systems, as well as the touristic and cultural sector. Measures are also envisaged to boost productivity, particularly under the components on the digitalisation and competitiveness of the productive system and on research and innovation.

Macroeconomic stability
Italy's performance under SDG 8 (decent work and economic growth) remains below the EU average. The employment rate remains lower than the EU average and Italy is losing ground on real GDP per capita. The investment share of GDP is still far from the EU average, although some improvements have been recorded in recent years. Concerning SDG 17 (Partnerships for the goals), Italy's public debt remains an important source of vulnerability for the economy. In addition, the already high public debt stock has significantly increased to mitigate the impact of the COVID-19 pandemic. With regards to SDG 16 (peace, justice and strong institutions), Italy made progress towards ensuring peace and personal security. The current level for the perceived independence of the judiciary remains below the EU average but with a positive trend since 2013.
A number of structural horizontal reforms included in the plan are expected to significantly contribute to improve Italy's performance concerning macroeconomic stability SDGs. The reform of the public administration, the justice system as well as the measures against tax evasion, undeclared work and employment policies reforms are particularly relevant to this end.

3. OBJECTIVES, STRUCTURE AND GOVERNANCE OF THE PLAN

3.1. Overall strategy of the plan

The Italian Plan is expected to address a significant subset of Italy's structural challenges focusing on three horizontal priorities: digitalisation and innovation, ecological transition and social inclusion. The investments and reforms included in the Plan aim at reducing the Italian digital and innovation gap both among firms and in the public administration so as to enhance productivity, competitiveness and the capacity to adapt to changes. The measures related to the ecological transition are also aimed at enhancing competitiveness, as well as at creating new productive activities and stable jobs, while minimizing the environmental footprint of production. Finally, the measures related to social inclusion aim at reducing territorial, gender and generational divides so as to reduce the inequalities worsened by the pandemic and ultimately support economic growth. The Plan includes 16 components (see Table 3.1) structured around 6 areas of interventions, so-called "Missions", covering all seven European flagships.

A chapter of the Plan is dedicated to horizontal and enabling reforms[44] with the aim of improving the effectiveness of public administration, including for the absorption of the Recovery and Resilience Facility resources, and fostering the business environment. This chapter includes measures improving the management of public employment, reducing red tape and strengthening administrative capacity. A reform of the justice system is also included to reduce the length of civil and criminal proceedings, improve the efficiency of the justice system and reduce the backlog of pending cases. The Plan includes measures to improve regulations in certain specific sectors and remove a number of barriers to competition. More specifically, substantial reforms are envisaged to simplify the public procurement framework, reduce public administration's late payments, prioritise competitive processes to award local public service contracts and limit authorisations (concessions) over alternative awarding solutions. Some reforms have been included to support the sustainability of public finances, namely by improving the tax administration and enhancing the efficiency of public expenditure. Sectoral reforms are also included, such as the plan to combat undeclared work and to strengthen active labour market policies or the reforms pertaining to the education system.

Mission 1 (digitalisation, innovation, competitiveness, culture and tourism) is built around three components related to public administration, innovation, competitiveness and culture and tourism. **Component M1C1** includes a balanced mix of reforms and investments to enhance the administrative capacity of the Italian public administrations at central and local

[44] The milestones and targets to be achieved for these reforms in the Council Implementing Decision are included in Component M1C1 for the reforms of Public administration, justice system, taxation and public procurement. The milestones and targets for the competition law are included in Mission 1 component 2.

levels, both in terms of human capital (selection, competences, and careers) and in terms of simplification of administrative procedures and digitalization. **Component M1C2** consists of different types of instruments to support the digital transition and the innovation of the production system. In this respect, Transition 4.0 is a large measure envisaging tax incentives for investment in 4.0 technologies, research, development and innovation as well as training in digital skills. Component M1C2 also envisages a significant investment in digital infrastructure for the deployment of ultra-fast broadband, 5G and satellite connections. This component also includes financial support to promote the development of firms (including SMEs) operating in strategic value chains, and to increase the competitiveness of companies, for instance by supporting internationalisation processes. In combination with these measures, the component supports the development of the strategic value chain of microelectronics by investing in Silicon Carbide substrates, which is a necessary input for the manufacturing of semiconductors. Finally, the component includes a reform of the industrial property system to foster its potential and provides for financial support of industrial property-related projects of companies and research bodies. **Component M1C3** includes measures to promote the creative and cultural sector and increase the competitiveness and resilience of the tourism ecosystem, including by enhancing the digital and green transition.

Mission 2 (green revolution and ecological transition) includes interventions aimed at promoting the circular economy, renewable energy, sustainable mobility, hydrogen, energy efficiency of private and public buildings; and at tackling hydrogeological risks, and water and waste management. These initiatives are key to support the swift implementation of the Italian climate, renewables and energy efficiency objectives as enshrined in the National Energy and Climate Plan. **Component M2C1** is a wide-ranging component, which includes an ambitious and welcome set of interventions that concern waste management, the circular economy in municipalities, as well as support for the competitiveness of the agri-food ecosystem, with the ambition of reducing GHG emissions, developing precision farming and strengthening the bio-economy. Component M2C1 also includes investments in green communities, small non-interconnected maritime islands, which aim at a significant improvement in energy efficiency and environmental sustainability. **Component M2C2** envisages investments in renewables, hydrogen and the mobility ecosystem, including significant investments in production chains of the key sectors of the ecological transition (photovoltaic, batteries for the transport sector and for the electricity sector, buses supply chain and hydrogen), aiming at developing industrial and knowledge excellence in these fast-growth industries. Ultimately, these interventions promote Europe’s open strategic autonomy in line with the EU Industrial Strategy[45]. Important investments in the renewal of the local public transport current

[45] COM(2021) 350 final, https://ec.europa.eu/info/sites/default/files/communication-new-industrial-strategy.pdf

fleet by clean vehicles and on the development of urban transport modes (e.g. metros, cycles lanes, tramways, etc.) are also envisaged under this component. **Component M2C3** has the objective to increase the energy efficiency of both private and some public buildings (e.g. schools, justice), one of the best levers for reducing emissions in a country with more than 60% of the building stock over 45 years old, both in public and in private buildings. **Component M2C4** sets out actions to improve the management of water resources and to make the country more resilient to climate change. These measures include a set of reforms in the water sector, the mitigation of hydrogeological and seismic risks, the preservation of green areas and biodiversity, the elimination of water and soil pollution in line with the EU zero pollution ambition, and the sustainable management of water resources. The component also includes completing the national program on air pollution control.

Mission 3 (infrastructures for sustainable mobility) aims to develop the high-speed network and its capacity, to strengthen the regional network and to make Italian ports more competitive and environmentally friendly. The Mission consists of two components. **Component M3C1** aims at developing the Italian rail system by completing the main high-speed and high-capacity rail lines both in the North and the South of the country, completing the TEN-T Core Network Corridors, integrating them with the regional rail network, enhancing the safety and efficiency of the entire rail network and strengthening the connection of key metropolitan nodes, including the modernisation of a number of rail stations. A very important element of the deployment of 3 600 km of the European Rail Traffic Management System (ERTMS) to ensure full interoperability with the other systems in the EU in line with the ERTMS deployment map. The main objective is to support modal shift from road and air to rail, increasing rail capacity and connectivity and improving the quality of service along key national and regional connections, including by strengthening cross-border connections. **Component M3C2** sets a number of reforms to make intermodality and integrated logistics more competitive and simplify the implementation of projects in Italian ports through the updating of port planning and the competitive allocation of concessions. It provides for some investments to make ports more environmentally friendly and resilient to climate change and to support the modernisation and digitalisation of the logistics system. This component also envisages actions for the digitalisation of the air traffic management system and the competitive allocation of concessions.

Mission 4 (education and research) aims at the achievement of a knowledge-intensive, competitive and resilient economy. In line with the European Semester, the plan focuses on the continuum between education and research capacities. **Component M4C1** includes a comprehensive set of actions, including a reform agenda that concerns the whole education cycle, from early education to higher education, including the teaching profession. It also envisages investments for the upskilling of school staff, upgrading of educational infrastructures and measures to bring PhD skills closer to concrete needs of firms and institutions. **Component M4C2** provides support to the public research system, researcher’s skills and mobility, as well as business-academia cooperation at national and EU level and research infrastructures. It is built on three main pillars: (i) improved science base; (ii) strong business-science links (knowledge and technology transfers); (iii) support for R&I ecosystems and business innovation (notably innovative SMEs, start-ups and scale-ups). The proposed reforms concern a) the move to a more systemic approach to R&D activities, through a new simplified model aimed at generating a significant impact through avoiding dispersion and fragmentation of priorities; b) the legislation to increase mobility of high-profile figures (i.e. researchers and managers) among Universities, Research infrastructures and companies; c) the simplification of funds management; d) the career path of non-tenure researchers.

Mission 5 (inclusion and cohesion) aims at strengthening employment, social and territorial cohesion. This mission is built around three components. **Component M5C1** centers on ALMPs, strengthening of public employment services, upskilling and reskilling initiatives. The envisaged actions mainly focus on gender equality (women's enterprises and the gender equality certification system) and on young people, (the dual apprenticeship system and the universal civil service). A reform to tackle undeclared work is also outlined. **Component M5C2** is aimed at social inclusion with actions targeted towards vulnerable and disadvantaged groups, such as people with disabilities and or the elderly. It addresses major social vulnerabilities in terms of material poverty and housing deprivation, and it acknowledges the importance of urban regeneration and sport to foster social inclusion and integration. **Component M5C3** includes interventions for the resilience of internal, peripheral and mountain areas, through the strengthening of Inner Areas and projects for the development of the South, including investment for tackling education poverty, the enhancement of assets confiscated from the organised crime, reform and infrastructural investment in Special Economic Zones.

Mission 6 (health) aims at strengthening proximity services and digitalizing the national healthcare system. The aim of measures included in this Mission is to strengthen the response capacity of Italy's National Health Service, with a view to responding to the country's demographic and epidemiological trends driving increasing demand for healthcare in an ageing population and to improve therapeutic and technological innovation. A significant amount of resources is allocated to improve infrastructure and technology endowments, promote research and innovation, and develop the technical, professional, digital and managerial skills of the health care staff. This mission is built around two components. **Component M6C1** aims at improving the governance of the National Health System and enhancing the access to and support provision of integrated and patient-centered healthcare and continuity of care at territorial level, close to citizens. **Component M6C2** focuses on investments in the digitalization of the Health Care Systems (measures to enhance the Electronic Health Record and modernisation of the e-health systems will improve efficiencies in the health sector) and the envisaged reform focuses on the reorganization of the network of Scientific Hospitalization and Care Institutes (IRCCS) by updating the rules in national regulations to review the legal regime of the IRCCS. The investments concern the development, strengthening and modernization of the technological and physical infrastructure of the national healthcare service and the research sector.

Table 3.1 of components (grouped by mission) and associated costs

Mission	Component	Costs (EUR million)
Mission 1 (digitalisation, innovation, competitiveness, culture and tourism)	M1C1. Digitalisation, innovation and security in the PA	9 722
	M1C2. Digitalisation, innovation and competitiveness in the production system	23 895
	M1C3. Tourism and culture 4.0	6 675
Mission 2 (green revolution and ecological transition)	M2C1. Circular economy and sustainable agriculture	5 265
	M2C2. Renewable energy, hydrogen, grid and sustainable mobility	23 778
	M2C3. Energy efficiency and renovation of buildings	15 362
	M2C4. Protection of land and water resources	15 054
Mission 3 (infrastructures for sustainable mobility	M3C1. Investments in the rail network	24 767
	M3C2. Intermodality and integrated logistics	630
Mission 4 (education and research)	M4C1. Strengthening the provision of education services:from crèches to universities	19 436
	M4C2. From research to business	11 440
Mission 5 (inclusion and cohesion)	M5C1. Employment policies	6 660
	M5C2. Social infrastructure, households, the community and the third sector	11 216
	M5C3. Special interventions for territorial cohesion	1 975
Mission 6 (health)	M6C1. Local networks, facilities and telemedicine for local health care	7 000
	M6C2. Innovation, research and digitalisation of the national health service	8 626
	Total	**191 499**

3.2. Implementation aspects of the plan

The Recovery and Resilience Plan provides clear explanation of how it fits within the goals, priorities and policy and reform recommendations of other national broad plans. The

Recovery and Resilience Plan is part of a broader development strategy, which is made up of an integrated set of funding sources and policy instruments. For instance, Italy has decided to set up a dedicated budget fund, with a total budget of around EUR 31 billion, to finance specific actions complementing and supplementing the Plan. Through the Additional National Fund, the State supplements the ceiling of resources available to pursue the priorities and objectives of the Plan, taking into account specific parliamentary resolutions.

The Recovery and Resilience Plan is linked to the National Energy and Climate Plan, which includes reforms and investments that will facilitate reaching climate and energy targets for 2030 and paving the path towards climate neutrality by 2050. Notably, the "Green Transition" pillar of the Plan supports the transition towards a low-carbon energy system, with increased participation of Renewable Energy Sources in energy consumption, improved energy efficiency of the domestic building stock, and a "greener" and more sustainable transport system.

The Plan is consistent with the National Transport Strategic Plan, the Integrated National Transport System and in line with the European Flagship 'Power Up' and 'Recharge and Refuel', as it acknowledges the importance of developing modern, sustainable, accessible and climate change resilient transport infrastructures. It acknowledges the enhancement of resilience against threats and risks of any kind as a crucial element of economic and societal development and progress. As a result, it incorporates the strategic guidelines, objectives and detailed targets to promote Energy Transition and Sustainable Mobility.

The Plan is broadly aligned with the objectives and priorities presented in the draft National and Territorial Just Transition Plan. The "Green Transition" pillar includes investments to improve waste management and reforming the circular economy model. Reforms on waste management and circular economy, if well implemented and accompanied by the strengthening of local capacities for investment, could have a substantial contribution to cohesion and convergence as they aim at establishing national planning tools that would bridge the gap between different regions and improve the national average in achieving national and EU goals for the sector. The reforms and investments in the Plan address the green transition needs, also providing a much-needed boost to innovative elements of the transition, such as hydrogen, offshore renewables, and storage. Synergies with the Just Transition Plan are only broadly explored in the Plan for the case of hydrogen production. Other significant measures well aligned with EU transition's priorities include: improvement of the agri-food chain sustainability, the creation of green communities, the increase in the share of energy produced by Renewable Energy Sources (RES), the improved performance of the electricity grid, the promotion of alternative fuels and smart mobility, and encouragement of reduction of polluting modes of transport. These actions are expected to create new jobs for the local workforce, as well as a range of novel growth opportunities.

The Recovery and Resilience Plan is also expected to operate in consistency, complementarity, and cooperation with the new Italian Partnership Agreement for the 2021-2027 of the European Structural and Investment Funds, and its operational programs. The Plan is expected to be consistent with the objectives and priorities of the new Partnership Agreement, which is still under negotiation with the Italian authorities. Synergies among different instruments are expected to avoid a duplication of effort and lead to a simplification of planning, management and implementation of EU support in Italy. As envisaged under Decree Law of 31 May 2021 n.77, central administrations responsible for the implementation of measures of the Recovery and Resilience Plan can provide support on monitoring and coordination of national and EU programmes, including European Structural and Investment Funds that are implemented mainly through regional programs. Along with the Common Agricultural Policy, Horizon and Connecting European Facility, the three instruments contribute to the bulk of investment funds to be deployed in the Italian economy in the following years.

The missions on the 'Green Revolution and Ecological Transition', 'Digitalisation, Innovation of the Public Administration and Business Competitiveness', and 'Inclusion and Cohesion' comprise investments and reforms which contribute directly and indirectly to job creation and to enhancing youth employment. Reforms and investments included in the "employment policy" component, aim at increasing long-term employment, employability and labour productivity through labour market reforms, modernising active labour market policies (including measures targeted to the young unemployed individuals and women), strengthening vocational training, increasing up/re-skilling services, and building capacity for the Public Employment Service. These reforms and investments are related to the goals and priorities of the National Youth Guarantee Implementation Plan, and complement its activities, while they are expected to operate as complements in mitigating the employment and social impact of the COVID-19 pandemic.

Overall, the plan is consistent with the main challenges and priorities identified in Draft Council Recommendation on economic policy of the euro area.[46] The Italian NRRP addresses EAR 1 by strengthening the coverage, adequacy, and sustainability of the health system. A number of measures are envisaged to reinforce local health care facilities, fostering the digital transition throughout the health system and use health data to assess the quality of care and support health care decisions and planning for improving the governance of the healthcare system. The Italian NRRP also envisages a set of structural reforms to improve the business environment by simplifying the public procurement system, reforming local public service, and

[46] 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".

removing barriers to competition. These actions, combined with the efforts to revise public expenditure, would contribute to increase EU funds absorption and improve public financial management, in line with EAR 1. The Italian plan would also address EAR 2 with significant measures that aim at enhancing the green transformations of the Italian economy, by improving energy efficiency and building renovation, promoting renewables and hydrogen production as well as fostering circular economy and better agricultural practices. These measures are also expected to contribute to the achievement of the European Green Deal and to promote the Europe's economic interests (EAR5). Moreover, a number of measures are also envisaged to contribute to the green and digital transition, to improve labour market participation, particularly for women and young people, and to enhance the quality of the education and training services. A relevant set of reforms and investments would address EAR 3 by increasing the effectiveness of the public administration, the efficiency of the justice system and the resilience of the healthcare system. Moreover, concerning the business environment, the Plan includes measures to remove barriers to competition, improve regulation in certain sectors and streamline the public procurement code. The Plan also includes measures to reinforce the insolvency framework, potentially positively impacting the banking sector balanced sheets (EAR 3 and EAR 4). These measures are expected to contribute to mitigate the effects of the crisis, preventing the accumulation of non-performing loans on bank balance sheets. This is turn will allow banks to continue providing credit to the economy and supporting economic growth.

A multi-level governance is envisaged for the implementation and the monitoring of the Plan. This includes in particular: at political level, a steering committee established at the Presidency of the Council of Ministers; at social dialogue level, a consulting body involving representatives of regional and local authorities, social partners and relevant stakeholders; at technical level, notably a central coordination and monitoring structure established at the Ministry of Economy and Finance and a technical secretariat established at the Presidency of the Council of Ministers to support the activities of the steering committee and the consulting body. In addition, technical coordination structures will be identified at the level of central administrations responsible for the measures under their remit. The strengthening of administrative capacity, including through the provision of technical support to administrations and the temporary recruitment of experts, and the simplification of administrative procedures are envisaged with the aim to ensure a timely and effective implementation and monitoring of the plan. The model also provides for the establishment of an independent Audit Body for the implementation of internal control systems. The competences and mandates of the relevant bodies, the simplification of administrative procedures and the strengthening of administrative capacity have been defined in two legal acts adopted by the Italian government (Decree Law of 31 May 2021, n. 77 and Decree Law of 9 June 2021, n. 80). In addition, technical support may be requested under the Technical Support Instrument to assist Member States in the implementation of their plan.

With regard to gender equality and equal opportunities for all, the plan has a dual approach of responding to the consequences of the pandemic and addressing structural

factors leading to inequalities. The Plan describes how the measures are expected to contribute to overcoming the national challenges identified in terms of gender equality but also in terms of equal opportunities for some groups. This is in particular the case for younger persons, but it also concerns other groups in situation of vulnerability, such as the older people and persons with disabilities. The plan aims at investing in nurseries, preschool and early childhood education and care services to facilitate labour market participation of women. To gear the implementation of the Plan towards its equality objectives, the Italian authorities have introduced anticipating mechanisms, such as equality-driven criteria in calls for tenders and made the funding of projects conditional on the recruitment of young people and women.

The development of the Plan included the consultation of a variety of stakeholders, which are set to be involved also in the implementation phase. The Plan went through a process of consultation and interaction with a variety of stakeholders, including regional and local authorities, civil society organizations, social partners and academics and policy experts. Following the opinion of the Italian Parliament on the strategic guidelines proposed by the government for the drafting of the Plan, a first version was approved by the Council of Ministers on 12 January 2021. After the change of government in February 2021, the examination of the draft plan and the consultations with relevant stakeholders continued. The Chamber of Deputies and the Senate held a series of hearings involving a variety of stakeholders such as regional and local authorities, social partners, civil society organisations and institutional bodies and approved ad hoc reports thereon, together with resolutions steering the finalisation of the plan on that basis. Furthermore, the government itself held a dialogue with regional and local authorities within the framework of the State-Regions Conference. As a result of this process, the revised Plan was presented to Parliament, which acknowledged that the government took into account the indications provided by the Chambers and endorsed the transmission to the Commission. With regard to the consultation process in the implementation phase, the Italian Plan envisages to continue regular dialogues with the various administrations involved in the implementation of the plan and with stakeholders. To this effect, the governance model envisages the creation of a consulting body with the participation of economic and social partners and other relevant stakeholders, as defined in a legal act adopted by the government at the end of May 2021 (Decree Law of 31 May 2021, n. 77).

Security self-assessment

In accordance with Article 18(4)(g) of the RRF Regulation, the plan includes a security-self assessment for investments related to cloud services and infrastructures for the public administration. As regards connectivity measures, in particular for 5G deployment, Italy confirmed that it will carry out such an assessment at a later stage, taking into account the connectivity scenarios that will result from the mapping and public consultation exercises. In this regard, Italy stated that it will analyse risk scenarios and implement measures to avoid or mitigate any potential security risks. Strategic measures mentioned in the security self-assessment would need to be closely monitored during the implementation of the plan.

Cross-border and multi-country projects

The Plan includes several cross-border and multi-country projects, notably in the areas of transport, energy and digital. The Plan strengthens Italy's rail, e-mobility and 5G corridors, reinforcing interconnections with other Member States. By ensuring the deployment of the European Rail Traffic Management System throughout the Italian railway network and removing infrastructure bottlenecks in important nodes, the Plan will enable the development of seamless railway freight connections with other Member States along the TEN-T corridors. The Plan envisages notably to invest in the rail connection between Verona and the Brenner, facilitating railway freight between Italy and Germany in the Scandinavian-Mediterranean corridor. The Plan also envisages improved connections between important container ports like Genoa and Gioia Tauro and the rest of the Single Market, through important investments in the Liguria-Alpi and Salerno-Reggio Calabria lines. Furthermore, the Plan also envisages to deploy charging stations along Italian highways, facilitating e-mobility on long distances in line with the *Recharge and Refuel* flagship. In addition, the Plan envisages the deployment of optical fiber and 5G based technologies along the European 5G corridors to facilitate the introduction of autonomous driving and the creation of new value-added services. Finally, some transnational elements are also present in certain initiatives supporting research and innovation (e.g. as regards approved and potential Important Projects of Common European Interest (IPCEIs), or R&I partnerships in the context of Horizon Europe).

The Plan will contribute to the achievement of the objectives of the new Industrial Strategy[47] for fostering the twin transition, making EU industry more competitive and enhancing Europe's open strategic autonomy. In particular, it is worth noticing the support to approved and potential IPCEIs, key investments in EU strategic value chains in batteries, hydrogen and electric mobility, and public-private research partnerships. The Plan provides for the strengthening of the financial endowment of the "IPCEI Fund", which can support companies that participate in approved and potential IPCEIs undertaken in all areas of strategic intervention and value chains identified by the European Commission. Italy is already participating in the two IPCEIs on batteries and on micro-electronics. In the Plan, Italy underlines its intention to participate in the potential second IPCEI on micro-electronics and on the potential one on Next Generation Cloud Infrastructure and Services, in two potential hydrogen IPCEIs and also in potential IPCEIs on raw materials and health. The Plan also envisages to invest in the development of Italian value chains in hydrogen, batteries and e-mobility. Furthermore, the Plan also envisages to support the participation of Italian firms to Horizon Europe partnerships in High-Performance Computing, Key Digital Technologies, Blue Ocean and Innovative SMEs. Finally, the Plan envisages investments in the space economy that will complement Italy's

[47] COM(2021) 350 final, https://ec.europa.eu/info/sites/default/files/communication-new-industrial-strategy.pdf

participation to EU space policy. Other investments with a cross-border dimension include: the measures to strengthen the network of European Digital Innovation Hubs (EDIHs) under Component M4C2, and the possible development of cross-border cooperations to strengthen the offer of specialised education and training in digital domains (Component M4C1).

Additionally, the Plan also envisages to invest in the implementation of the Single Digital Gateway in Italy, allowing the cross-border exchange of data for the benefits of businesses and citizens.

Communication strategy

The Plan envisages a broad communication strategy aimed at informing stakeholders and the general public of the measures included in the Plan and the results achieved, to be implemented also in coordination with the EU institutions as a joint communication effort. The strategy clearly identifies main objectives and target groups, which encompass both potential beneficiaries of RRF funds as well as the wider public, with the individuation of categories considered as particularly strategic (enterprises, media, students). The strategy builds on a set of identified communication channels, including an online portal dedicated to the Plan and its implementation that is intended to support communication activities to the wider public and to enhance transparency in the monitoring of projects execution. It is also envisaged that annual communication plans will be prepared, detailing strategic priorities, activities (actions, targets, channels), planned budget, and monitoring and evaluation activities. The recognition of adequate visibility to the role of the European Union in the financing is to be pursued in accordance with Article 34 of Regulation 2021/241 of the European Parliament and of the Council.

State aid

State aid and competition rules fully apply to the measures funded by the Recovery and Resilience Facility. Union funds channelled through the authorities of Member States, like the RRF funds, become State resources and can constitute State aid if all the other criteria of Article 107(1) TFEU are met. When this is the case and State aid is present, these measures must be notified and approved by the Commission before Member States can grant the aid, unless those measures are covered by an existing aid scheme or comply with the applicable conditions of a block exemption regulation, in particular the General Block Exemption Regulation (GBER) declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU[48]. 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 Italy in the recovery and resilience plan cannot be deemed a State aid notification. In as far as Italy considers that a specific measure contained in the recovery and resilience plan entails de minimis

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

aid or aid exempted from the notification requirement, it is the responsibility of Italy to ensure full compliance with the applicable rules.

Irrespective of whether they comply with the EU's State aid regime, measures 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 presents 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. The Plan follows a holistic approach to achieve recovery and increase potential growth, while enhancing socio-economic and institutional resilience. Overall, the Plan focuses on the twin transition and Italy's main challenges, including those related to social and territorial disparities.

Table 4.1. Coverage of the six pillars of the Facility by the Italian RRP components.

	Green transition	Digital transformation	Smart, sustainable, inclusive growth	Social & territorial cohesion	Health, economic, social and institutional resilience	Policies for next generation
M1C1	○	●	●	●	●	●
M1C2	○	●	●		●	○
M1C3	○	○	●		●	
M2C1	●	○	●	●		
M2C2	●	○	●	○		
M2C3	●		●	●	○	
M2C4	●	○	●	●		
M3C1	●	●	●	●	●	
M3C2	○	○	●		●	
M4C1	●	●	●	●		●
M4C2	●	●	●			●
M5C1		●	●	●	●	●
M5C2	○	○	●	●	●	
M5C3	○		●	●	●	●
M6C1	○	○		●	●	
M6C2	○	●	○	●	●	

Key: "●"component significantly contributes to the pillar; "○" component partially contributes to the pillar

Green transition

The Italian RRP includes 37,5% of expenditure related to the green transition. The Plan includes a number of measures related to energy efficiency, in particular through a scheme for building renovations but it also envisages direct investments to improve the energy efficiency of public buildings. Italy also intends to use the Facility to boost the production of clean hydrogen in line with the flagship projects *Power Up* and *Refuel and Recharge* and to increase the share of renewables in transport and heating, in particular through the development of bio-methane. Reforms, such as to facilitate the authorisation of renewable power production, are also included to support the green transition. The Plan also focuses on reducing GHG emissions from transport: it envisages important investments in sustainable urban mobility, including e-mobility, is set to boost railway infrastructure to support modal shift and to reduce GHG emissions in air and maritime transport. The Plan also aims at reducing emissions in the agriculture sector. The Plan also supports Italy's climate adaptation efforts, as well as seismic resilience and the quality of infrastructures and it addresses the existing challenges on circular economy and waste management, water supply and wastewater management and biodiversity protection. The contribution to the green transformation pillar provided by the different measures contained in the Plan is explained in detail in Section 4.5 below.

Digital transformation

The plan dedicates 25% of the financial allocation to the digital transformation. The measures in the plan focus especially on the digital transformation of the public administration and justice system, the strengthening of the health care system through digital technologies, the modernisation of businesses through the uptake of advanced technologies (Transition 4.0) and on fostering gigabit connectivity across the country. The reforms and investments contribute to address digital skills development, with measures aimed at improving the basic digital skills of the general population, increasing the offer of training on advanced digital skills, and upskilling and reskilling of the workforce (including public sector employees). The contribution to the digital transformation pillar provided by the different measures contained in the Plan is explained in detail in Section 4.6 below.

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

Investments in the plan have the potential to enhance productivity and foster sustainable growth. First of all, the Plan contains a series of reforms and investments aimed at increasing the capacity of the country to attract investments and to create new businesses and jobs. The annual competition laws will remove long-lasting barriers to entry in a variety of strategic sectors, making them more contestable and dynamic. The reform is also expected to reduce the time needed to start a business in Italy, to award contracts in local public services based on a more competitive process and to reduce late payments (arrears) by the public administrations. The simplification of public procurement rules and the reform of the Public Administration will reduce the red tape for the realisation of public projects as well as the unnecessary regulatory hurdles faced by businesses. Overall, the enhanced competitive environment and the leveling of the playing field is expected to favour entrepreneurship, a more efficient allocation of resources and therefore improving the overall welfare. Furthermore, the measures focused on the justice system, including the reduction of the length of judicial proceedings and the reorganisation of the Trial Office at courts, will enhance legal certainty, which is often perceived as one of the main obstacles for doing business in Italy. The reform of the insolvency proceedings will also facilitate the de-risking of bank balance sheets and prevent the accumulation of new non-performing loans on bank's credit portfolios.

Secondly, Small- and Medium-sized Enterprises (SMEs) will significantly benefit from the measures contained in the Plan. While the reforms described above are addressed to all economic activities in Italy, SMEs, often lacking sufficient resources and staff to cope with the complexity and slowness of authorisations and administrative procedures, will largely benefit from the simplification and streamlining of Italian bureaucracy. For instance, reducing the administrative burden attached to national incentives for energy efficiency renovations can make them more accessible and attractive to SMEs. The Plan also brings in efforts for digitalisation, which are likely to benefit SMEs. Measures for the development of digital skills are to some extent part of the national plan 'Transition 4.0', including the tax credit for 'Training 4.0', which will provide an opportunity for SMEs to increase their digital capacities. The increase in the level of SMEs' technological capabilities will also be achieved through enhanced knowledge-sharing (e.g. through Digital Innovation Hubs). Component M1C1, finally, also foresees financial support to promote the development of firms (including SMEs) operating in strategic value chains, and to increase the competitiveness of companies, for instance by supporting internationalisation processes.

Thirdly, the Plan pays due consideration to the importance of boosting research, development and innovation activities, by providing support to the public research system, the business-academia cooperation (also including through knowledge and technology transfer), the access to research infrastructures, and supporting the R&I ecosystems for innovative SMEs, start-ups and scale-ups. During the implementation of the plan, sectoral support from the Horizon Policy Support Facility for the design, implementation and evaluation of research and innovation policy reforms will be available to increase the quality and effectiveness of the RRF supported investments.

Finally, the Plan includes measures to increase the efficiency and fairness of the labour market and to contribute to the European Pillar of Social Rights. The Plan foresees a comprehensive reform of active labour market policies (ALMPs) and vocational training, by defining essential levels of training for the most vulnerable groups. The Plan boosts the participation of women (e.g. with measures to support the creation of enterprises by women and with investments in nurseries). Young people's integration in the labour market is also supported through e.g. enhancing the "Universal Civil Service" initiative and strengthening the dual systemand through reforms aimed at reducing undeclared work. The Plan addresses the vulnerabilities identified by the Social Scoreboard and provides a detailed mapping of selected interventions to the criteria of the Social Scoreboard (see section 4.3 below).

Social and territorial cohesion

The Plan includes investments and reforms to strengthen the active inclusion of vulnerable groups. The measures in the Plan focus on strengthening Active Labour Market Policies with a special focus on vulnerable groups of the population who face more difficulties entering the labour market. It also aims to enhance the provision of public services and social housing opportunities for the low-income groups and also to disadvantaged groups with specific projects for instance for people with disabilities, for youth and for the non-self-sufficient elderly and to improve the regeneration and affordable housing, and promoting the culture of sport, also by incentivising the recovery of sports infrastructures through the creation of urban parks.

The Plan also aims to reduce territorial disparities. It allocates at least 40% of investment with a specific territorial destination to Southern regions (against a national requirement of 34%). In particular, it contributes to addressing the infrastructural gap and it aims at enhancing the productivity and competitiveness of lagging regions in broadband, high-speed railways and regional lines, waste, water and wastewater management infrastructure, ports and "last mile" connections in the Special Economic Zones. In addition, the Plan includes interventions to improve access to basic services in rural and remote areas, and a set of interventions to address urban degradation, including investment for tackling education poverty and the enhancement of asset confiscated from the organised crime. The plan also pays particular attention to the less developed regions in a set of measures aimed at tackling education poverty, strengthening social services and tackling important problems in deprived urban areas.

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

The plan includes investments and reforms aimed at improving the health, and economic, social and institutional resilience. In the area of healthcare, the plan includes measures aimed at increasing the resilience of the healthcare system, by strengthening its coverage, adequacy, and sustainability also in view of the increasing demand for healthcare related to the ageing population, and to improve research development, therapeutic and technological innovation. Also, a number of measures are envisaged to reinforce telemedicine and local health care facilities, improving the governance of the healthcare system and boost disease prevention and health promotion. The plan presents a comprehensive set of measures to address labour market deficiencies and to strengthen social and territorial cohesion. Finally, the comprehensive reforms concerning sectors of the public sector will increase the effectiveness and efficiency of the institutions. Particularly, the public administration is expected to be more effective and responsive to firms and citizens thanks to reform of the recruitment system, significant investment in digitalisation and strengthened administrative capacity, especially at local level. The length of civil and criminal proceedings is expected to be reduced thanks to gains in the justice system efficiency. Overall, the efficiency and resilience of Italian institutions are expected to benefit from the set of reforms and investment of the national RRP.

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

The Plan also includes investments and reforms to boost the quality of education (and hence of human capital) allowing for equal education opportunities across the country, significantly reducing regional disparities in terms of schooling infrastructure and educational outcomes. Southern regions are expected to significantly benefit from the envisaged investments in sport facilities, nurseries and student housing and from the increased number of university scholarships as well as from targeted projects to reduce early-school leaving and increase education outcomes of vulnerable pupils. Measures such as the modernisation of technical and professional upper secondary education, the reform and expansion of the tertiary non-academic sector (ITS) and the improvement of orientation services to boost the transition from school to higher education could help improve young people's educational attainment as well as their employment prospects.

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

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

The Plan is expected to address a significant subset of the relevant country-specific recommendations issued to Italy both in 2019 and 2020. The reforms and investments envisaged are ambitious and have the potential to structurally tackle long-standing challenges of the economy. Notably, the most relevant challenges for the Italian economy concern the complex and inefficient tax system, the inefficiencies of the labour market, characterised by high unemployment and low women's participation. Challenges persist in human capital formation, with weak educational outcomes and limited adult learning. The public administration remains ineffective and suffers from weak administrative capacity, particularly at local level. Inefficiencies affect the justice system, hindered by a significant backlog of cases and very lengthy proceedings, thus weakening the fight against corruption and weighing on the business environment. The latter remains not sufficiently supportive for businesses, with remaining barriers to competition to be removed and specific regulations to be improved, particularly concerning public procurement and concessions, limited authorisations and local public services. The quality of infrastructure needs to be upgraded while research and innovation further supported. This is particularly true for Souther regions that lag behind in terms of productivity and competitiveness due to the relevant gap of infrastructure and innovation. Pockets of vulnerabilities remain for the banking sector while the subdued non-banking access to finance for firms, particularly SMEs and innovative firms, leave them excessively dependent on the banking system.

The Plan includes relevant fiscal-structural reforms that are expected to contribute to the sustainability of public finances. Several reforms are expected to help reducing tax evasion, including the strengthened capacity of the tax authority in terms of staff, analytical infrastructure and data access, the deployment of pre-filled VAT tax returns as well as the introduction of effective sanctions for the refusal of electronic payments. In addition, the Plan includes the commitment to review possible actions for fighting tax evasion in the most exposed sectors and to take effective action on that basis. A comprehensive reform of personal income taxes is also mentioned in the Plan, whereby the Italian authorities express the intention to simplify the tax system and reduce the burden on labour while preserving progressivity and fiscal sustainability. This reform is not included as a measure in the Plan and thus not associated to deliverables (milestone or target) under the Recovery and Resilience Facility. On the expenditure side, the Plan includes a reform of the spending review process, in order to enhance its effectiveness and to support green and gender budgeting, as well as the commitment to implement three yearly spending reviews over 2023-2025. The introduction of an accrual accounting system for all public administrations is also expected to support a better monitoring of public finances. Finally, the completion of the fiscal federalism reform is set to improve fiscal relations among the different levels of government, by allocating resources based on objective criteria and encourage spending efficiency at the subnational level. Overall, these measures are expected to reduce the revenue-loss from tax evasion and to improve the efficiency of public expenditure in the medium term, contributing to improve fiscal sustainability.

The Plan includes a set of reforms and investments in the health sector aimed at ensuring greater resilience of the healthcare service. Particularly, the envisaged reforms and investment are expected to improve the effectiveness and the equality of the health system by fostering improvements for a balanced and proportionate territorial healthcare assistance and the integration of care services. The actions would strengthen proximity networks and facilities, home care and telemedicine for territorial healthcare assistance, review the organisation, technological and quality standards of territorial care and proximity health care, boost disease prevention and health promotion, through the definition of a new institutional network. Moreover, the Plan envisages the review of the legal regime and the reorganization of the network of Scientific Hospitalization and Care Institutes (IRCCS) to support research and strengthen the responsiveness of the Italian NHS to health emergencies and demographic trends, as well as improve the relations between the NHS and universities. Significant investments are envisaged to develop, strengthen and modernise the technological and physical infrastructure of the national healthcare service and the research sector,

, increasing the number of doctors in primary care specialization and developing knowledge (professionals in the NHS) and fostering managerial skills (professionals in governance, coordination and decision-making). Overall, the Italian NRRP is expected to significantly contribute to improving the resilience of the Italian health system.

The Plan includes measures contributing to increase the efficiency and fairness of the labour market, by improving the effectiveness of ALMP, boosting participation of women and young people to the labour market and by launching new initiatives for fighting against undeclared work. Unemployed workers and workers in transition are expected to be supported by the establishment of the “National Programme for the Guaranteed Employability of Workers”, the adoption of the National Plan for New Skills to define uniform standards and essential levels of vocational training, and investment to strengthen the public employment services (PES). Measures to support the creation of women’s enterprises and investment in nurseries would contribute to raise the level of women’s participation in the labour market. This would be further supported by the introduction of a "National gender equality certification system", based on the definition of standards for the certification of gender equality and related incentives for companies that successfully conclude the certification process. The plan includes measures to step up the fight against undeclared work, illegal recruitment and contribution evasion. When implemented, the measures on undeclared work are expected to strengthen the detection and sanctioning of irregular working practices, to encourage workers and employers to declare work by making it easier to comply with actions such as the simplification of enrolment procedures and tax arrangement. These measures will also be coupled with actions to increase awareness about the importance of “playing by the rules”, including by demonstrating the cumulative financial and social costs and consequences for the whole society of the undeclared work. Would these measures be properly and swiftly implemented the Italian NRRP, they would effectively contribute to address the challenges covered by the country-specific recommendations on labour market.

Reforms and investments to improve the educational outcomes and to boost upskilling and reskilling, particularly in view of the twin transition are envisaged by the plan. A set of reforms and investments aims at improving early- and primary education by extending and upgrading nurseries and kindergartens, increasing the supply and recourse to full time in primary schools and improving sport facilities. Measures are also envisaged to improve the educational outcomes in secondary education while improving employability and fighting early-school leaving. Particularly, targeted projects are financed, especially in Southern regions, to keep vulnerable pupils in school and support students already out of the education system. The plan envisages a overhauling re-organisation of the school system to match the current demographic trends, coupled with a reform of the orientation system to ease the transition to university and the labour market. To this end, the reform of Technical and Professional Institutes is also included in the plan. A reform of the teaching profession is included too, focusing particularly on recruitment, selection, mobility and training of teachers. The Plan envisages a set of measures concerning tertiary education, particularly the reforms of enabling degrees and degrees group as well as the reform of student housing framework and measures for vocational-oriented secondary education. The number of scholarships will be increased while Ph.D programmes will also be reformed and extended. Significant investments are envisaged to foster technological innovation and equipment updates, strengthen the scientific, technological and language skills of students and teachers, with specific focus on women and STEM curricula. In order to foster upskilling and reskilling, the revision of the governance of the vocational training system is envisaged, with the aim to define uniform standards and essential levels of vocational training, through the adoption of the National Plan for New Skills. In the implementation phase, it will be important to focus on activation measures to encourage people to aquire relevant digital skills to promote employability, high quality jobs, and facilitate the digital transition of the economy. Overall, the Plan is expected to contribute to tackle the challenges related to human capital formation, both in terms of education and adult learning.

Significant investments coupled with sectoral reforms aim to support research and innovation and the quality of infrastructure, taking into account regional disparities and with a view to the twin transition. The measures particularly concern digital infrastructure, waste and water management, the clean and efficient use of energy, sustainable public transport, and research and innovation. Particularly, on the regional divide in the quality of infrastructure, the Plan includes investment in broadband, high-speed railways and regional lines in the South, in "last mile" connections and port infrastructure in the Special Economic Zones, in waste, water and wastewater management infrastructure. Thus, if the investments are properly and swiftly implemented, the Italian NRRP would contribute in reducing the infrastructural gap between Northern and Souther regions.

A number of measures of the Plan are expected to significantly contribute to supporting research and innovation. The Plan includes measures to foster simplification of funds management, mobility of high-profile resources, including researchers and managers, and improve researcher's careers. A set of investments is envisaged to strengthen R&I activities and promote partnerships between universities, research institutes and private firms for basic and applied research. Further investments aim at supporting innovation and technology transfer processes, including by reinforcing the financial endowment of IPCEIs and strengthening of technology transfer centres by industry segments. Circular economy, hydrogen, space and earth observation, green and digital transitions, sustainable transport and energy are among other the mentioned R&I topics. Advanced digital technologies (e.g. Artificial Intelligence, Quantum or

HighPerformance Computing) are broadly addressed in the Plan, through the creation of dedicated centers and the connection with European initiatives. The plan also includes investment targeted at strengthening the enabling conditions for R&I. To this end, it is envisaged a fund for research and innovation infrastructures, measures to support Start-ups financing and the introduction of innovative doctorates that respond to the needs of innovation by enterprises and promote the hiring of researchers by companies. Overall, the set of measures envisaged in the Italian NRRP have the potential to significantly address the challenges concerning research and innovation. The impact and coherence of the set of R&I measures is expected to be monitored and evaluated as to adjust to the evolving challenges.

Relevant investments are envisaged to boost digital infrastructure and improve its quality. The envisaged broadband investment will bring gigabit connectivity to NGA grey areas and scattered households in NGA white areas. These actions have the potential to guarantee the goal of providing all households with 1 Gigabit connectivity by 2030. Additional sub-measures will ensure connectivity at Gigabit speed to public schools, hospitals and remote islands. The plan will also boost coverage of 5G networks. In particular, investments are envisaged in market failure areas in order to bring 5G connectivity to populated areas. Additional interventions are planned to bring 5G along the main European transport corridors and 5G coverage to 10 000 Km of extra-urban roads. The Plan also includes investments to upgrade the digital infrastructure of the public administration and strengthen its security. Thus, the Plan is expected to contribute to tackle the challenges covered by the country-specific recommendations on digital infrastructures.

The Plan rolls out ambitious investments on renewables, clean and efficient energy, sustainable public transport, waste and water management. The measures are in line with the 2020 guidelines issued by the Commission to Italy on the key climate and energy priorities in view of the implementation of its national energy and climate plan[49]. It envisages important investments in renewables (hydrogen, biomethane, offshore, photovoltaic), smart grids and energy efficiency (renovation through the Superbonus 110%, energy-efficient municipalities). The Plan proposes ambitious rail, metro, tram, port and cycling infrastructure investments, complemented by a strong support for Zero Emission Vehicles in land transport and related infrastructure. The Plan includes important investments in waste treatment facilities and flagship projects for the separate collection of electronic, plastic and textile waste. Finally, the plan also contains important investments in water and wastewater infrastructure, soil re-use and adaptation to climate change. These investments are accompanied by important reforms of concessions and local public services (cf. business environment reforms), the reduction of the fragmentation of water utilities and the adoption of an ambitious National Circular Economy Strategy. The Plan contains targets to reduce regional disparities in waste.

[49] SWD(2020) 911 final.

The Plan includes a set of reforms and investments to increase the effectiveness of the public administration, particularly by improving the management of public employment, reducing red tape, and strengthening the administrative capacity, especially at local level. If all these investments and reforms will be properly and swiftly adopted and implemented, the country-specific recommendations on public administration could be substantially addressed, more specifically:

- The measures on public employment focus on the selection and recruitment of public employees and it is coupled with investments for the creation of a single recruiting platform and of an integrated digital toolkit on skills and profiles. To retain valuable human resources, the plan includes a reform of public administration careers, both in terms of horizontal and vertical mobility, and investments for upskilling and reskilling, including digital skills.
- In parallel, a set of reforms and investments will focus on enhancing administrative capacity and reducing red tape, to simplify and speed up administrative procedures. Particularly, an administrative simplification through ad hoc legislative interventions (fast track) is envisaged for administrative procedures as well as the elimination of authorizations not justified by public interest.

  These measures are complemented and reinforced by significant investments and reforms to boost the digitalisation of the administrations, creating a national cloud-based hybrid infrastructure (PSN), fostering and effectively supporting the migration to the cloud for datasets and applications as well as ensuring interoperability. The Plan also intends to improve and boost the supply of citizen-oriented digital services and ensure the wide-spread adoption thereof across both central and local administrations, while strengthening Italy's defenses against cybercrime. To ensure the swift implementation of the reforms and deployment of the ICT investment, a dedicated "Transformation office" for a digital public administration will be set up to coordinate the effort and support the migration to cloud, the adoption of digital public service platforms and the improvement of citizen experience. Furthermore, a set of incentives and obligations will be introduced aimed at facilitating the migration to cloud and removing procedural constraints to the broad adoption of digital services. Finally specific actions are envisaged to ensure the timely and efficient procurement of ICT services.

Reforms and investments are envisaged to increase the efficiency of the justice system. The Plain aims at continuing the efforts deployed so far to reduce the length of civil and criminal proceedings and reduce the backlog of cases, building on already implemented measures and reforms under discussion at Parliament. To this end, significant temporary investment is envisaged in human resources to speed up the reduction of disposition time and backlog of proceedings. Backlogs and length of proceedings related to administrative justice would also benefit from a less significant temporary investment in human resources. Investment will be complemented by reforms to increase efficiency gains and enhance the system's organisation, particularly by strengthening the Trial Office, strengthening young human capital, including through specific training actions, and introducing new technical and administrative roles. Regulatory measures are envisaged to effectively reduce the backlog and the duration of civil and criminal trials as well as specific investments to increase the efficiency of the administrative justice. The set of investments and reforms will be complemented by measures to support national investments for the digitalization of judicial offices, including a full digitalised procedure both for civil and criminal proceedings, the development of advanced systems for the digital collection of procedural information and data, and the enhancement of the capacity building of the justice administration. Finally, measures to review the insolvency framework are envisaged, thus contributing to mitigate the potential negative impact of the COVID-19 pandemic on banks' balance sheets. Overall, the Italian NRRP is expected to significantly address the country specific recommendations on the justice system and insolvency framework.

The Plan also envisages substantial reforms to improve the overall business environment and to reduce barriers to competition through Annual Competition Laws, simplifying public procurement, strengthening market surveillance and reducing public administration's late payments. Under the Plan, Italy commits to adopt annual competition laws in 2021, 2022 and 2023. These laws will notably increase competitive processes for the award of public service contracts of waste management and local public transport as well for port, hydropower, gas distribution and highways concessions. The Plan also envisages to enhance the regulatory oversight and the adequate compensation of local public services, as well as to reduce their fragmentation. The Plan envisages the phase out of electricity regulated prices for micro-enterprises and households as from 2023, as encouraged by the Commission's assessment of the National Energy and Climate Plan, together with flanking measures to improve competition in retail electricity markets. Regions are also provided with incentives to tender out their public service contracts for regional services. The Plan also includes a major reform of public procurement to reduce the timing of procedures to less than 100 days and ensure a more uniform application of rules through less fragmentation of contracting authorities, reinforced coordination of public procurement policy and further digitalisation. The Plan envisages the rationalisation, digitalization and professionalisation of the market surveillance authorities. Finally, it also envisages the reduction of public administration's late payments to the levels required under the Late Payments Directive.

Overall, the Italian NRRP is expected to have a significant impact on the economy. The Plan principally aims at funding additional public investment, while limited funding is envisaged for incentives to business investment and reducing taxes on labour and, to a limited extent, for current government expenditure and transfers to households. Real GDP is estimated to grow by 12,7% between 2020 and 2026, which implies that economic output would be 3,6% higher by 2026 compared with a scenario without the plan. While in the short-term the demand effects via increased public investment dominate, higher investment is expected to boost the public capital stock with positive effects on potential and actual GDP in the medium term. In line with the estimated higher economic activity employment levels are projected to be 3,2% higher than without recovery and resilience plan by 2026.

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

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

Country challenges	**Associated CSR (2019-2020) and European Semester recomm.**	**Component 1-** Digitalization of the Public Administration	**Component** 2- Digitalization, Innovation and Competitiveness of the Production System	**Component** 3- Tourism and Culture 4.0	**Component** 4- Circular economy, agri-food and green transition	**Component** 5- Eneegy transition and sustainable mobility	**Component** 6 - Energy efficiency and requalification of buildings	**Component** 7- Territorial planning and water resources	**Component** 8- Sustainable transport infrastructure	**Component 9-** Intermodality and integrated logistics	**Component 10-** Education: from nurseries to universities	**Component 11-** From research to business	**Component 12-** Employment policy	**Component 13–** Social infrastructures, families, communities and third sector	**Component 14–** Special interventions for territorial cohesion	**Component 15–** Proximity networks, facilities and telemedicine for territorial healthcare assistance	**Component 16 –** Innovation, research and digitalisation of national healthcare service
Public finances and taxation	2019.1; 2020.1.1.	●															

Labour market and social policies	2019.2.1; 2019.2.2; 2029.2.3; 2020.2.1; 2020.2.2; 2020.2.3.										○		●	●	○		
Education and skills	2019.2.4 2020.2.4	○	○								●		●		○		
Healthcare	2020.1.2; 2020.1.3.														○	●	●
Research and innovation	2019.3.1; 2020.3.1; 2020.3.2; 2020.3.5.		●								○	●					
Digital infrastructur e	2019.3.1; 2020.3.1; 2020.3.2; 2020.3.1.8 .	●	●	○								○				○	○
Energy, resources and climate change	2019.3.1; 2020.3.1; 2020.3.2; 2020.3.4; 2020.3.7 ;			○	●	●	●	●									
Transport	2019.3.1: 2020.3.1; 2020.3.2; 2020.3.6.					●			●	●					●		
Business environment and competition	2019.3.3; 2020.3.2	●	●	○	○	○	○		○	○		○			○		
Public administratio n	2019.3.2; 2020.4.2	●															
Justice system and anti-corruption framewok	2019.4.1; 2019.4.2; 2020.4.1	●															
Financial markets and access to finance	2019.5.1; 2019.5.2		○														

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

Fostering economic growth and jobs

The Plan focuses on growth-enhancing reforms and investments that target long-standing vulnerabilities and structural deficiencies. The main objectives of the plan are to spur innovation and digitalisation, accelerate the ecological transition and to strengthen social cohesion and inclusion. The envisaged reforms concentrate on public administration, justice, the simplification of legislation and the promotion of competition. This comprehensive reform and investment package is targeted on improving Italy's growth potential and increasing job creation. The Plan envisages to allocate most of the Next Generation EU funding to additional public investment. A minor share of the funding will be used for incentives for business investment and reducing taxes on labour and, to a limited extent, for current government expenditure and transfers to households.

The additional GDP growth induced by the Plan is estimated to be substantial and further spurred by spillover effects. The projections assume that all grants and half of loans requested under the recovery and resilience facility as well as resources available under REACT EU, Horizon, InvestEU, Just Transition Fund, Rural Development and RescuEU will be used to finance additional government expenditure and in particular public investment (for a total of around EUR 144 billion)(see Box 4.3.1). While in the short-term the demand effects via increased public investment dominate, higher investment is expected to boost the public capital stock with positive effects on GDP in the medium term. A sizeable part of the estimated growth impact is due to spillover effects that materialise due to the synchronised and EU-wide reform and investment programme. The macroeconomic impact presented in the plan takes into account additional measures expected to be financed with national resources, resulting in an overall expenditure aggregate of around EUR 183 billion. Around 62% of these resources are expected to be used for public investment. Although the projection results are not directly comparable due to the different assumptions on the relevant expenditure, the central projections included in the Plan assume a higher efficiency of public capital than the Commission analysis. While this higher efficiency appears in principle achievable, it requires an effective and sound implementation and a high productivity of the investment stimulus. Therefore, these estimates are subject to downside risks.

The Plan has the potential to trigger sizeable employment effects and increase labour force participation, especially of women. The significant demand effects triggered by the Plan are likely to benefit the labour market. Sustained measures included in the Plan to facilitate women's entry into the labour market, such as a better provisions of care facilities, are set to have a long-term impact on labour supply and potential growth. Moreover, programmes to up- and reskill both employed and unemployed workers as well as initiatives to enhance the employability of young people is set to raise aggregate labour productivity in the medium and long term.

Digitalisation and the ecological transition are expected to generate the largest growth effects, followed by investment in education and research. According to the Plan, business investment supported by tax credits (*Transizione 4.0*), public spending on ultra-broadband infrastructure and 5G networks and investment in strengthening supply chains are estimated to buttress GDP growth in the medium-term. However, the growth impact islikely to be dampened by the high import content of ICT equipment. The green transition led by construction investment (*Superbonus*) and investment in Research & Development as well as expenditure on education is expected to result in an additional growth impact.

Structural reforms have the potential to sustain the estimated investment-induced output effects. Model-based Commission estimates suggest that addressing structural shortcomings by reducing the performance gap with the best-performing countries could have a significant impact on growth in the long term. Reform areas with the largest gaps and thus the biggest estimated long-term growth impact include the public administration and the judiciary system combined with measures to enhance competition in product markets. Estimates are based on the assumption that the pace of structural reform efforts in these areas is maintained in the longer term. They might thus be considered as a best-case scenario subject to sizeable uncertainty.

Box 4.3.1: **Stylised NGEU impact simulations with QUEST – Italy**

Model simulations conducted by the Commission using the QUEST model show that the economic impact of the NGEU in Italy could lead to an increase of GDP of between 1,5% and 2,5% by 2026.[1] **After 20 years, GDP could be 1.1% higher. Spillovers account for a large part of such impact.** According to these simulations, this would translate into up to 240 000 additional jobs. Cross border (GDP) spillovers account for 0,3 pp. 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 1: QUEST simulation results (%-deviation of real GDP level from non-NGEU case, linear disbursement assumption over 6 years)

Scenario	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2040**
Baseline	1,0	1,8	1,9	2,0	2,3	2,5	2,1	1,7	1,8	1,8	1,1
of which spillover	*0,2*	*0,3*	*0,2*	*0,3*	*0,3*	*0,3*	*0,2*	*0,2*	*0,1*	*0,1*	*0,0*
Low productivity	0,8	1,4	1,3	1,3	1,4	1,5	1,0	0,5	0,6	0,6	0,5

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 Italian GDP by around 17% in 20 years time, more than the 11% found for the EU average, the difference reflecting the relatively larger gaps towards best performers in Italy. [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 Italy's RRP.**

[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 and Territorial cohesion

The Recovery and Resilience Plan presents a comprehensive set of measures to address labour market deficiencies and to improve social cohesion. These policies include investing in enhancing women's empowerment and combating gender discrimination, increasing young people's employment prospects, tackling territorial disparities in demographic and services; supporting skill development and employment transition; investing in the development of the South and internal areas. The Plan addresses the vulnerabilities identified by the Social Scoreboard and provides a detailed mapping of selected interventions of the Recovery and Resilience Plan to the criteria of the Social Scoreboard.

The Plan includes measures to strengthen social and territorial cohesion and contribute to the European Pillar of Social Rights by improving several labour market and social indicators. The measures of Component M5C1 introduce a comprehensive and integrated reform of active labour market policies (ALMPs) and vocational training, by defining, in close coordination with the regions, essential levels of training for the most vulnerable groups. Strengthening ALMPs and improving the capacity building of public employment services (PES), including their integration with education and training providers and private operators are expected to increase services' efficacy and strengthens institutions. In addition, the measures of this component aim at reducing social vulnerabilities to shocks, in particular by focusing on undeclared work in all its forms and sectors by outlining initiatives for more effective controls and sanctions along with stronger incentives to work legally. Furthermore, this component promotes gender equality (e.g., equal pay) as explained in more details below, through the gender equality certification system and by promoting female entrepreneurship. It also invests in young people by increasing the quantity and quality of training programmes, for instance, through the participation to the Universal Civil Service programme. Component M5C2 includes measures to increase social inclusion with actions targeted towards vulnerable and disadvantaged groups such as people with disabilities and older people. It addresses major social vulnerabilities in terms of material poverty and housing deprivation and invests in urban regeneration and sport to foster social inclusion and integration. Component M5C3 promotes special interventions for territorial and social cohesion. For instance: (i) it introduces procedural simplification and infrastructural investment in Special Economic Zones; (ii) it strengthens resilience and attractiveness of internal, peripheral and mountain areas through investments in (a) social infrastructure that can be used to increase the provision of services on the ground and, (b) community-based health services, such as rural pharmacies; (iii) it promotes the transformation of assets confiscated from organised crime into public goods such as social housing and socio-cultural centres for young people; (iv) it enhances investments for reducing education poverty and strengthening youth services for children with the support of the Third sector.

Many other investments and reforms included in the plan, in addition to the one presented under Mission 5, are expected to have a positive impact on social inclusion and cohesion. For instance, Mission 2 includes reforms on waste management and circular economy that will have a substantial impact in strengthening social inclusion and cohesion by improving economic sustainability and living conditions. Other measures include the enhancement of public transports and soft mobility (i.e. cycling) that will contribute to social cohesion by developing more sustainable local transport and increasing the attractiveness of the target areas. Mission 4 includes direct investments to strengthen basic digital skills among citizens, to boost the provision and the quality of education services as well as measures aimed at increasing students and young people's skill levels. The investment directed to improving the resilience of the health care system in Mission 6, will also contribute to the fulfilment of principle sixteen (i.e., access to healthcare) of the European Pillar of Social Rights.

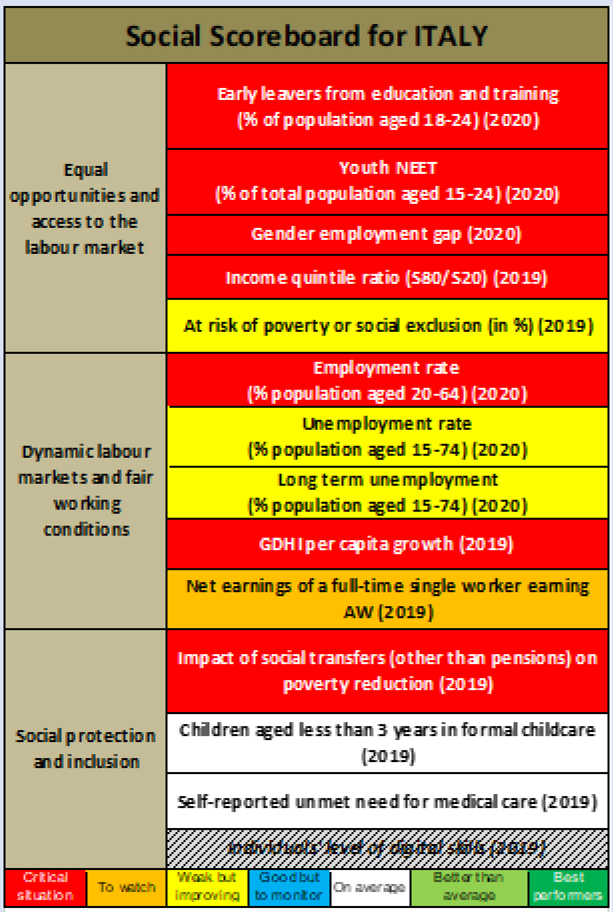
Throughout the Plan, there are some measures that are expected to contribute to addressing the country's challenges in the area of gender equality and equal opportunities for all. These include measures addressing specifically the challenges to gender equality, such as the support to female entrepreneurship or the establishment of a national gender equality certification system. Specific measures are also envisaged to support equal opportunities for younger people, including measures aimed at enhancing STEM, digital and innovation skills, with a particular focus on gender equality and equal opportunities for all. Measures on enhancing community and home-based social and health services, such as innovative housing solutions and equipment, aim at promoting the independent living of persons with disabilities and older people. The plan explains how the various components are expected to contribute, even indirectly, to equal opportunities, in particular for women and younger people. The expected contribution for specific groups, such as persons with a minority ethnic or racial background, remains unclear in the plan. Especially when the anticipated contribution is indirect only, close monitoring of the plan's concrete implementation will be essential to ensure that it delivers the expected results and forms part of a comprehensive strategy, in synergies with national equality policies such as the National Strategy for Gender Equality 2021-2026.

To conclude, the Plan contains a number of measures that are expected to effectively contribute to strengthening social cohesion and social protection systems, therefore it is expected to have a high impact. Overall, these measures are expected to contribute to principles

1, 2, 3, 4, 5, 17 and 19 of the European Pillar of Social Right and be in line with the Youth Guarantee.

Box 4.3.2: **Employment and social challenges in light of the Social Scoreboard accompanying the European Pillar of Social Rights**

The Social Scoreboard supporting the European Pillar of Social Rights points to a number of employment and social challenges in Italy. The COVID-19 crisis has halted the weak but positive labour market developments observed in the past years and risks leading to an increase in the share of people at risk of poverty or social exclusion (AROPE). The unemployment rate, at 10,2% in February 2021, was significantly above the EU average (7,5%). Despite recent improvements, the share of long-term unemployed remains extremely high in Italy (4,7% in 2020). The overall employment rate in 2020 was among the lowest in the EU, at 62,6%, and the employment rate of women is about 20pps below that of men. This very large gender employment gap is partly attributable to caring responsibilities of women. Childcare enrolment has decreased in recent years, with 26,3% of children aged less than 3 years in formal childcare in 2019 compared to 28,6% in 2017.



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 employment situation of young people in Italy is critical. Despite a continued decline in recent years, the share of young people aged 15-24 not in education, employment or training (NEET) remains among the highest in the EU and has significantly worsened in the current crisis (from 18,1% in 2019 to 19% in 2020). Of particular concern is the 25-29 age group, for which the NEET rate in 2020 was 31,5%. Early school leaving improved by 0,4 pps annually,but remains an area where substantial progress is needed given the below-average performance (13,1% in 2020 compared to 10,1% in EU- 27) and wide regional differences. **While poverty has been gradually decreasing before the crisis, the pandemic may reverse this trend**. In 2019, the at risk of poverty or social exclusion rate was among the highest in the EU (25,6%) and was particularly acute for children (27,7%). These challenges are also reflected in the limited poverty-reduction impact of social transfers, which is one of the lowest in the EU (20,2% vs EU average of 32,4%).

The Recovery and Resilience Plan (RRP) submitted by Italy addresses a multitude of employment and social challenges relevant for the implementation of the Pillar. To improve labour market dynamics and working conditions, Italy plans to enhance ALMPs by investing in the capacity of the Public Employment Services (PES) and strengthening the dual system of initial vocational education and training (VET). The plan includes milestons and targets on undeclared work, which together investment from the national budget and the other EU fund, would contribute to step forward the 2019 CSR. To ncrease women labour market participation, the RRP includes investments in early childhood education and care, the creation of women's enterprises and the introduction of a "National gender equality certification system" for enterprises. To foster equal opportunities and access to the labour market, the plan includes a new strategy for lifelong learning and a modernisation of the upskilling and reskilling system. Measures include adopting a National Plan for New Skills that would define essential levels of vocational training and supporting upskilling and reskilling of workers, unemployed and workers in transition, including young people and adults. Even though additional efforts are needed, this reform could help increase the percentage of individuals with basic or above basic digital skills, which is one of the lowest in the EU (42% vs. 56% EU-wide in 2019). Dedicated investments are planned to address employment and social challenges in the South and the areas struck by earthquakes.

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 to provide much needed support, in synergy with the European Social Fund and other EU funding. The RRP also tackles social exclusion, mainly through social housing, investments to strengthen the capacity of national social services, investments in education and greater access to sports for disadvantaged groups. The plan also includes support to persons with disabilities and the labour market integration of vulnerable groups. Finally, Italy included measures aimed at reforming and expanding territorial healthcare assistance and investing in the digitalisation of the health services , with potential for strengthening access to care.

Reducing Vulnerability and Increasing Resilience

Several measures and components aim to reduce the country's vulnerabilities and to increase its capacity to absorb shocks. The main vulnerabilities identified in the context of the Macroeconomic Imbalances Procedure are related to the high public debt, the protracted weak productivity growth, the financial sector and the labour market. The measures discussed in the previous two sub-sections, such as the investment in research, innovation and infrastructure and the reforms to reduce barriers to investment, including in the public administration and to improve the competitiveness of firms, can contribute to boost Italy's productivity dynamics and growth, reducing in turn the public debt to GDP ratio.

The capacity to withstand shocks crucially depends on at least four factors. First, sufficiently flexible labour market complemented with well targeted and effective social safety net is necessary to limit damages to employment in case of a negative shock. Second, fiscal policy should be in a position to act counter-cyclically in case of a drop in aggregate demand in the private sector. Third, public administration should have the capacity to implement coordinated policy responses in time of need, and to be a helpful partner of the private sector in normal times too. Finally, a well-functioning financial market could play a crucial role in both preventing crises and in mitigating their impacts by avoiding financial acceleration.

The planned reforms in the labour market are expected to improve its resilience. As discussed above, the reforms of the active labour market policies and investments to modernise public employment services in Component M5C1 are expected to bring personalised and tailored made activation paths for the unemployed, a strengthened vocational training system, a new range of up/re-skilling services. Reforms and investments under the same component, once implemented, are set to improve the efficiency of the fight against undeclared work through the development and implementation of a National Action Plan, increase women's participation in the labour market while also decrease gender pay gap, and support young people to acquire new competences and work experience through a Universal Civil Service. Labour market resilience is also expected to be strengthened by further reforms and investments that promote digital skills (Component M1C2), strengthen the provision of education services and put in place measures to stimulate the transition towards a knowledge-based economy (Components M4C1 and M4C2).

The planned reforms aimed at the most vulnerable, in their individual, family and social dimensions are expected to increase social resilience. Strengthening the role for integrated social services will support the definition of personalised models for improving the quality of life of persons with disabilities, the adoption of innovative models of social housing and investments in urban regeneration projects will support the re-functionalization of the existing building and improving access to affordable and adequate housing. The development of the resilience capacity of the most vulnerable individuals will also be reached through the dissemination of the culture of sport and the recovery of sports infrastructure through the creation of urban parks where sports can be combined with entertainment activities for the benefit of the communities.

Resilience is also expected to be improved through investments in and measures supporting the health care system, public administration, digital transition, energy efficiency and building requalification, and railway infrastructure. The COVID-19 crisis underlined the strong link between the health systems and the economy. A stronger and more resilient health system would be better placed to ensure preparedness measures (to control potential disease outbreaks in the future) limiting the socio-economic disruption, to absorb surges in healthcare demand and to ensure the alleviation of its negative consequences on citizens and workers. Through reforms and investment included in mission 6 of the Plan, it will be possible to strengthen local health networks, tele-medicine, homecare and the integration between social and health services. Measures related to the digitalization, modernization and reorganization of the public administration (Component M1C1) will address persisting structural challenges and contribute to strengthening capacities of institutions as well as their resilience to shocks. For instance, streamlining and simplifying legislation repeals or amends laws and regulations that excessively hamper the daily lives of citizens, businesses and public administration. Furthermore, investment to favour the digital transition of culture and tourism will increase the competitiveness and the resilience of these sectors (Component M1C3); while the measures aimed at increasing energy efficiency and buildings requalification (Component M2C3) will also improve social resilience and decrease vulnerabilities. For instance, the reduction of energy bills will contribute to mitigate the risks of energy poverty, particularly in the poorest performing buildings occupied by low-income and vulnerable families. They would also improve living conditions by enhancing thermal comfort and removing harmful substances. In addition, the expanded and upgraded railway infrastructure (Component M3C1) is expected to enhance the resilience of transport systems, with wider beneficial impacts for other European Member States in terms of reduced vulnerabilities of logistic chains.

Cohesion and convergence

Investments focussed on the South of Italy will contribute to foster territorial cohesion and convergence, and to closing the infrastructure (and services) gap.

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

4.4. The principle of 'do no significant harm'

The Regulation establishing the Recovery and Resilience Facility provides that no measure included in the recovery and resilience plan should lead to significant harm to any of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation[50]. In line with the Recovery and Resilience Facility Regulation and the Technical Guidance on the Application of 'do no significant harm' under the Recovery and Resilience Facility Regulation (2021/C58/01; 'DNSH Technical Guidance'), Member States provide a 'do no significant harm' (DNSH) assessment, on which basis the Commission assesses whether each and every measure (i.e. each reform and each investment) included in the recovery and resilience plans complies with DNSH. DNSH compliance is a necessary condition for the Commission to positively assess the recovery and resilience plan.

Italy's recovery and resilience plan applies the DNSH Technical Guidance and template in presenting the DNSH assessment for each measure in the recovery and resilience plan. Italy has included a detailed DNSH assessment for each measure included its recovery and resilience plan in accordance with the template provided by the Commission, and in line with the DNSH Technical Guidance. Based on the information provided, the Commission has assessed whether and how each measure in Italy's recovery and resilience plan complies with DNSH, in

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

accordance with the criteria established in the Recovery and Resilience Facility Regulation and with the guiding principles set out in the DNSH Technical Guidance.

Italy ensures that no significant harm is done to environmental objectives by selecting or designing measures complying with DNSH, and by substantiating DNSH compliance as part of the DNSH assessment. By selecting measures that either contribute substantially to environmental objectives, or have no or an insignificant foreseeable impact on environmental objectives, many measures in Italy's recovery and resilience plan can be considered DNSH compliant from the outset (e.g. certain measures in education and training, labour market, public administration). Other measures are designed to ensure compliance with DNSH, including broad support schemes that span across sectors and activities (e.g. in R&D&I, and support to SMEs). For measures requiring a 'substantive DNSH assessment' according to the DNSH Technical Guidance, Italy has provided evidence and assurances substantiating that the measures do not lead to significant harm to any of the six environmental objectives (e.g. sustainable mobility, circular economy, renewable energy, water). Italy has provided notably guarantees that its investments in waste management do not contain investments in incinerators and mechanical biological treatment are envisaged; investments in renovation like the Superbonus 110% contain measures to manage demolition waste in line with waste disposal requirements; investments in bus rapid transit lanes will be reserved to electric buses; investments in offshore renewables will ensure the protection of marine resources, investments in desalination shall use the best available technologies with the lowest environmental impacts; investments in biomass will not increase particulate emissions; and that investments in air navigation services will lead to a reduction of GHG emissions thanks to the improvement in the sequencing of aircraft, both in the airspace and route and in the approach to airports, resulting in a reduction in aircraft fuel consumption.

While compliance with DNSH is ensured by Italy, there are measures included in Italy's recovery and resilience plan that required specific evidence and commitments through milestones and targets to substantiate that they will not lead to significant harm to environmental objectives. This is the case, for example, for the Superbonus 110% tax deduction as a renovation incentive, which contains a milestone requiring the management of construction waste according to circular economy principles. This is also the case with demand driven measures, including financial instruments and certain projects that envisage calls for proposals/tenders. Investments in last-mile road connections are compensated by investments in electric charging stations. The plan does not include any road transport infrastructure measure except some 'last-mile' connections in Special Economic Zones. To avoid significant harm to the climate change mitigation and pollution prevention and control objectives, Italy's recovery and resilience plan includes as a flanking measure the extension of the recharging infrastructure for electric vehicles.

Additional guarantees have been provided for vehicles running on biomethane and for hydrogen. Investments in agricultural machinery or firefighting vehicles (Components M2C1 and M2C2) running on bio-methane require guarantees that they will not use fossil methane.

Italian authorities have provided indications for component 2.2 that vehicles will not run methane and that biomethane will be compliant with Directive 2018/2001 on Renewables (RED II). Italy is also coming with measures to significantly increase the production of biomethane. Investments in hydrogen will be limited to green hydrogen and will neither contain blue hydrogen nor involve natural gas. The milestones of hydrogen investments also include provisions to ensure that they will not result in activities with GHG emissions above 3 of tonnes-equivalent of CO2 per tonne of H2 produced.

Investments in water irrigation (Component M2C4) provide guarantees that they will not deteriorate the quality of existing water bodies. This principle is even more important as Italy has already a certain number of infringements related to urban wastewater treatment, drinking water and nitrates. In this context, the Plan secures that irrigation investment should aims at safe re-use of reclaimed water when feasible and/or to render existing irrigation more efficient, even if the concerned water body is in good status.

Italy's recovery and resilience plan comprises several broad measures spanning across sectors and activities, which are designed to be DNSH compliant. As set out in the DNSH Technical Guidance, measures of a more general nature, such as broad industry support schemes (e.g. financial instruments covering investments in companies across multiple sectors), should be designed to ensure adherence of the relevant investments with DNSH. This is the case of the measure Transition 4.0 in Component M1C2, for which compliance with the DNSH principle has been ensured by carving out from the plan the portion of the scheme that was not expected to comply with the DNSH Technical Guidance, based on data concerning the sectoral uptake of comparable measures in the past. For demand-driven measures entailing the use of financial instruments, a milestone envisaging the adoption of an investment policy in line with RRF objectives, including in relation to DNSH, has been included.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Italy'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 Recovery and Resilience Facility Regulation.

4.5. Green transition

Climate target

The Recovery and Resilience Facility will allow Italy to accelerate progress towards the 2030 energy and climate objectives as enshrined in its national energy and climate plan and national long-term strategy. The Italian plan includes measures supporting climate change objectives for an amount which represents 37,5% of the plan's total allocation (EUR 71 729 million out of EUR 191,5 billion), based on the methodology for climate tracking set out in Annex VI to the Recovery and Resilience Facility Regulation. The climate change contribution of each of the components of the recovery and resilience plan of Italy is set out in Table 4.5.1 below.

Table 4.5.1: % climate contribution by component. **Component**	**Cost (EUR million)**	**Climate contribution (EUR million)**	**Climate contribution (percentage)**
M1C1. Digitalisation, innovation and security in the PA	9 722	-	0,0%
M1C2. Digitalisation, innovation and competitiveness in the production system	23 895	-	0,0%
M1C3. Tourism and culture 4.0	6 675	917	0,5%
M2C1. Circular economy and sustainable agriculture	5 265	2 291	1,2%
M2C2. Renewable energy, hydrogen, grid and sustainable mobility	23 778	21 879	11,4%
M2C3. Energy efficiency and renovation of buildings	15 362	12 618	6,6%
M2C4. Protection of land and water resources	15 054	9 407	4,9%
M3C1. Investments in the rail network	24 767	20 563	10,7%
M3C2. Intermodality and integrated logistics	630	213	0,1%
M4C1. Strengthening the provision of education services:from crèches to universities	19 436	696	0,4%
M4C2. From research to business	11 440	1 972	1,0%
M5C1. Employment policies	6 660	-	0,0%
M5C2. Social infrastructure, households, the community and the third sector	11 216	280	0,1%
M5C3. Special interventions for territorial cohesion	1 975	252	0,1%
M6C1. Local networks, facilities and telemedicine for local health care	7 000	640	0,3%
M6C2. Innovation, research and digitalisation of the national health service	8 626	-	0,0%
Total	**191 499**	**71 729**	**37,5%**

Four components make up 90% of the total climate contribution of the recovery and resilience plan, as shown in the Tale 4.5.2 below. The largest contributions are from the components on clean power (31% of overall climate contribution), rail network (29%), buildings' renovation (18%).

Table 4.5.2: Top 4 components of the Italian plan, in terms of climate contribution

	Budget* (EUR m)	**% of total Plan***
M2C2. Renewable energy, hydrogen, grid and sustainable mobility	21 879	30,5%
M3C1. Investments in the rail network	20 563	28,7%
M2C3. Energy efficiency and renovation of buildings	12 618	17,6%
M2C4. Protection of land and water resources	9 407	13,1%
Sum (Top 7 climate components)	64 467	89,9%

* Climate-related budget only

Italy has followed Annex VI to the Recovery and Resilience Facility Regulation appropriately to track the climate expenditure of its recovery and resilience plan. Specific safeguards were introduced via selection criteria for the investments and specific provision in milestones and targets, to ensure that the characteristics of the projects funded by the RRP are in line with the condition set out in Annex VI to the RRF Regulation. This is particularly the case for measures in Mission 2 and 3.

Energy efficiency

The recovery and resilience plan is fairly ambitious when it comes to renovations for energy efficiency purposes. The plan envisages EUR 14 billion to support the Superbonus 110% housing tax deduction active since 1 July 2020 and will remain in force until 30 June 2022 (for social housing until 31 December 2022). Investments on tax deductions for building renovation measure in the residential sector in the plan represent a significant share – around 26% - of the public budget support envisaged in the National Energy and Climate Plan 2021-2030 (NECP) for the energy renovation of residential buildings. In the years 2022 and 2023, the Superbonus 110% will achieve approximately one third of the annual energy savings efforts from the residential sector set in the NECP, as well as one third of the annual renovation efforts in m2 set on Italy's Long-Term Renovate Strategy (LTRS). The objective of the Superbonus 110% to achieve 190 ktoe/year of energy savings from the residential sector will contribute to around 6% of the total 2030 target for the energy savings contribution from the tax deduction measures in the residential sector estimated in the Italian NECP.The Plan also envisages measures to simplify the access to the tax deduction notably through the development of a national portal for energy efficiency, a simplification of condominium rules and procedures (minimisation of ex-ante checks). The Plan envisages also to update and strengthen the National Fund for Energy Efficiency and to accelerate the implementation phase of projects financed by the PREPAC programme. Furthermore, the Plan envisages EUR 6 billion to improve energy efficiency of municipalities. Finally, despite the significant investment, substantial amounts of additional public funding will be needed to mobilise the total volume of investments necessary to deliver on the objective of the national energy and climate plan, in particular once the Superbonus 110% will expire.

The Plan also envisages reforms to increase competition in electricity and gas markets. The Plan envisages the phase out of regulated prices for micro-enterprises and households as from 1 January 2023. It also contains flanking measures to support the uptake of competition in electricity retail markets (auction the customer base still under price regulation, fixing a ceiling as a maximum market share available to each supplier, allowing Italian consumers to ask their energy supplier to disclose their billing data to a third-party provider, increase transparency on the electricity bill by giving consumer access to the sub-components of the "Spese per oneri di Sistema" and remove the requirement for suppliers to collect charges unrelated to the energy sector). Italy has committed to deploy at least 33 million second generation smart electricity meters by 2026 (Q4 2025). Finally, the Plan will make the tendering of concessions contracts mandatory for gas distribution.

Renewable energy sources

Important investments are envisaged to promote renewables for energy communities and jointly acting renewables self-consumers, as well as to develop offshore power production. Italy proposes to use the Facility to invest EUR 2,2 billion in energy communities in municipalities of less than 5 000 inhabitants, thus supporting the economy of small municipalities, often at risk of depopulation, and reinforcing social cohesion towards the most vulnerable population groups through the action of the local authority. The development of energy communities and jointly acting renewables self-consumers is promoted by Directive 2018/2001 on the promotion of the use of energy from renewable sources (RED II). Finally, the Plan also aims at investing EUR 600 million to promote Italy's efforts to develop offshore multi-power systems, combining wind, floating photovoltaic and wave motion power.

Italy intends to use the Facility to boost the production of clean hydrogen in line with the flagship projects *Power Up* and *Refuel and Recharge*. Italy intends by 2030 to meet 2% energy demand thanks to hydrogen and to install 5 GW of electrolysis capacity. Out of the EUR 10 billion investments needed till 2030 to reach these targets**,** the Plan provides for EUR 3 billion investments in electrolysers, hydrogen production in brownfield sites (so-called "hydrogen valleys"), the experimental use of hydrogen in hard-to-abate industries as well hydrogen-powered trains and trucks. These investments are completed with tax incentives to support hydrogen and measures to simplify and reduce regulatory barriers to hydrogen deployment, envisaging notably systems of guarantees of origin of hydrogen and the setting up of refuelling stations along motorways. Italy also intends to ensure that its 10-year deployment plan is coordinated with other Member States´ Transmission System Operators (TSOs). In areas like Taranto, the Just Transition Fund can later complement RRF investments in hydrogen-based "clean steel" production with up- and reskilling of steel workers.

The Plan supports Italy's efforts to increase its share of renewables in transport and heating, in particular through the development of bio-methane. To support the development of biomethane from manure, the Plan supports EUR 2 billion investments in new plants and/or the reconversion of existing agricultural biogas plants for the production of biomethane for transport and heating. These investments are accompanied by reforms to further authorise production increases and support them through grants. Bio-methane produced from anaerobic digestion of manure is in line with the Do-No-Significant-Harm principle and can be re-injected in the gas network, also helping to reduce methane emissions, supporting the objectives of Farm-to-Fork and Methane strategies, as well as ammonia pollution. The development of biomethane is part of the greening of transport fuels, as announced in the Italian National Energy-Climate

Plan. The Plan also envisages investments in agriculture machinery and firefighting vehicles powered with biomethane.

Italy will be conducting a certain number of reforms to facilitate the authorisation of renewable power production and to reform the award of hydropower concessions. The Plan envisages a certain number of reforms to simplify authorization procedures for renewable onshore and offshore plants and a new legal framework to sustain the production from renewable sources and time and eligibility extension of the current support schemes, in line with the Directive 2018/2001 on the promotion of renewable energy (RED II)[51]. Finally, in line with the country-specific recommendations, Italy intends to make the tendering of concessions contracts mandatory for hydropower and define a predictable regulatory framework for hydropower concessions. Hydropower is the largest renewable energy source in Italy.

Electricity infrastructure is recognised as an important element in the clean energy transition in the recovery and resilience plan. The Plan envisages EUR 3.6 billion in the development of smart grids solutions, namely grid reinforcement and digitalization of the electricity network to increase the network capacity for the distribution of renewable energy sources by at least 4 000 MW. These investments will increase the amount of energy produced by renewables fed into the distribution network (with related digital management) and also promoting greater electrification of consumption. About 40% of investments will take place in Southern Italy.

Effort sharing

The recovery and resilience plan contributes to Italy achieving its 2030 target of 33% GHG emissions reduction compared to 2005 for sectors under the Effort Sharing Regulation (ESR), including transport, agriculture, waste and buildings. Component M2C2 (sustainable mobility) and Mission 3 (infrastructures for sustainable mobility) focus on reducing GHG emissions from transport, which will contribute significantly to achieving the ESR target, as it is the sector in which GHG emissions continue to grow most. Reforms in public procurement will support the timely completion of important infrastructure investments in these areas.

The Plan envisages important investments in sustainable urban mobility, including e-mobility, contributing also to improve air quality. Italy will be investing EUR 8 billion in sustainable mobility, in particular in new metro, tram and bus rapid transit infrastructures (EUR

[51] This reform will inter alia complete existing simplifications for onshore plants, provide ad hoc simplifications for offshore plants, define criteria for the identification of the areas suitable and not suitable for the installation of renewable energy plants joinyly agreed between State and Regions, simplify authorisation procedures RES support mechanism also for additional non-mature or with high operating cost technologies and reform to promote investment in storage systems.

3,6 billion), 3 000 zero-emission buses (EUR 2,4 billion), regional trains rolling stock (EUR 0,8 billion) and cycling paths (EUR 0,6 billion). Italy is also embarking in major reforms of its local public transport system by increasing competitive procedures for the award of public service contracts, as part of the reforms of local public services and simplifying authorisation procedures for clean urban mobility. In line with the *Recharge and Refuel* flagship, the Plan will allow Italy to deploy 7 500 fast public charging points on freeways and 13 755 public charging points in urban centers and 100 experimental charging points connected to storage, as well as at least 40 hydrogen generation and refuelling stations for road transport). The Superbonus 110% measure in component M2C3 (energy efficiency) also contributes to establish private charging infrastructure in renovated buildings. Finally, the Plan also envisages the end of regulated prices in charging infrastructure, the requirement for highway concessionaires to install charging points and the introduction of transparent and non-discriminatory requirements for the assignment of public spaces for electric charging or for the selection charging point/station operators.

The Plan aims at boosting railway infrastructure to support modal shift. Rail transport will be supported to discourage the use of road transport, which accounts for the greatest share of transport GHG emissions. The Plan envisages significant investments on the Brescia-Padova (EUR 3,6 billion) and Liguria-Alps (EUR 3,9 billion) rail axes, together with an enhanced key connection to the Brenner tunnel. The RRF will add EUR 3 billion to the EUR 10 billion that Italy intends to devote to strengthening metropolitan nodes and key national links. The deployment of the European Rail Traffic Management System (EUR 3 billion) will allow to increase the capacity of railway services throughout Italy. Important investments on the Naples-Bari/Palermo axes (EUR 4,8 billion) will also allow to complete the Scandinavia-Mediterranean freight corridor, facilitating connections with the important port of Gioia Tauro and anchor Puglia and Calabria in the existing vibrant Italian high-speed network between Naples and Milan/Venice/Turin. Finally, the Plan also envisages reforms and investments to boost regional railways. Through the implementation of article 27 comma 2 d) of Decree-Law 50/2017, Italian Regions will be provided with financial incentives to tender out their public service contracts for regional railways. Some EUR 3 billion will be invested in regional railways in the South, notably in stations and electrification (and complementing investments in zero-emission – electric and hydrogen - trains and nine hydrogen refuelling stations).

The Plan also envisages investments to reduce GHG emissions in air and maritime transport. Thanks to the digitalisation of air traffic management, notably around Rome-Fiumicino airport, fuel consumption and GHG emissions from aircraft will be reduced. The RRF will also facilitate the greening of Italian ports through investments in energy efficiency and centralised smoke treatment and thanks also to reforms to simplify the authorisation procedures to provide electricity to piers ("on shore power supply"). These investments and reforms will accompany a major reform of ports covering the simplification of strategic planning, the introduction of clear, non-discriminatory and transparent criteria for the award for concession contracts and allowing concessionaires in big ports to merge their activities or providing some of the services of the port authority themselves. The Plan also strengthens its port system through competitive allocation of concessions, while respecting at the minimum the provisions of the Port Services Regulation 2017/352.

To reduce GHG emissions from agriculture, Italy plans to develop investment in biomethane, renewable energy in farms, precision farming and to enhanced logistics for agri-food supply chains. As explained previously, the Plan will support Italy's reforms and investments to develop biomethane, which will also help to increase renewable energy sources in transport. The Plan envisages to invest EUR 2,5 billion in agri-voltaic systems to improve the energy efficiency of farms and to install solar panels with intelligent management of energy flows and accumulators. The Facility will support innovation and mechanisation of agriculture to develop precision farming, which will also contribute to efforts to reduce reliance on the use and the risks of chemical pesticides, in the framework of the Directive for Community action to achieve the sustainable use of pesticides Furthermore, investments in logistics for the agri-food supply chain notably through storage facilities and digitalisation will also help to reduce GHG emissions from the agri-food sector. Finally, the Plan includes reforms introducing proper incentives for a sustainable use of water in agriculture (cf. infra).

The Plan also supports Italy's climate adaptation efforts, as well as seismic resilience and the quality of infrastructures. The Plan proposes to invest EUR 2,4 billion in reducing hydrogeological risks and EUR 500 million in the resilience of electricity networks. The Superbonus 110% measure also supports anti-seismic interventions (under the so-called *Sismabonus*). Interventions will be prioritised in line with the National Risk Assessment and with Article 6 of the Decision 1313/2013 EU and Risk Management Capability Assessment. To ensure that interventions take place swiftly, the Plan envisages that Italy will implement some of the recommendations of its Court of Auditors[52] on coordination of interventions between government levels and also between the various existing information systems. Finally, the reform of highway concessions will improve incentives to investment in the maintenance of road infrastructures, as well as its supervision by the transport regulator (ART) and the Ministry of Public Works.

Circular economy and waste management

Italy is taking advantage of the Recovery and Resilience Facility to address the existing challenges in waste management (cf. section 2.2). The Plan proposes to invest EUR 1,5 billion in the improvement of waste management through the mechanisation of segregated waste collection and additional waste treatment facilities. The Plan allows Italy to embark in an

[52] Deliberazione 31 ottobre 2019 n17/2019.

ambitious reform of its waste management by increasing competitive procedures for public service contracts for waste management through the reform of local public services, simplifying procedures authorising waste management facilities, providing technical support to local municipalities and by adopting by 2022 a National program for Waste Management, adapting the network of installations necessary for integrated waste management, to reinforce the coordination of the national and regional waste management programmes, to reduce the infringement procedures against Italy and to tackle low collection of waste and landfilling. The Plan contains targets to reduce the number of infringements against Italy[53] and the important regional disparities in separate collection rates.

The Plan also fosters the circular economy through flagship projects on separate collection on electronic, plastic and textile waste. The Plan requires Italy to reach as targets the recycling rates of the Circular Economy Action Plan by 2025[54] as well as to apply separate collection for textiles and hazardous waste fractions produced by households. It also envisages that Italy presents a new Circular Economy Strategy by 2022 covering notably a new digital waste traceability system, tax incentives to support recycling activities and the use of secondary materials, a revision of environmental taxes on waste to incentivise recycling at the expense of landfilling and incineration, the right to reuse and repair and a reform of the Extended Producer Responsibility and Consortia system.

The Plan envisages important investments and reforms to improve water and wastewater management. The Facility will invest EUR 2 billion in primary water infrastructures for the security of water supply, EUR 0,8 billion in the resilience of the irrigation agro-system, EUR 0,9 billion on water losses and EUR 0,6 billion in water sewerage. The Plan also requires Italy to tackle the excessive fragmentation of water utilities through incentives to merge entities notably along river basins. Finally, the Plan includes reforms introducing proper incentives for a sustainable use of water in agriculture, notably through the use of the common monitoring system for water uses (SIGRIAN).

Mission 2 Component 4 also contains some measures aiming to support biodiversity protection. It covers measures to support research and monitoring activities linked to the restoration of marine resources (EUR 400 million), the development of urban and peri-urban forests (EUR 330 million) and the "re-naturification" of parts of the Po area (EUR 357 million).

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

[53] Infringements NIF 2003/2077 must be reduced by 80% in 2024 and by 90% in 2025; infringements NIF 2011/2215 must be reduced by 60% in 2024 and 75% in 2025.
[54]

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

4.6. Digital transition

This section assesses whether and to which extent the proposed measures fulfil the elements corresponding to assessment criterion 2.6 of Annex V to the RRF Regulation. In particular, it assesses whether the methodology for digital tagging set out in Annex VII to the RRF Regulation has been applied correctly and whether the measures in the Recovery and Resilience Plan that effectively contribute to the digital transition or to addressing the challenges resulting there from it, account for an amount which represents at least 20% of the Plan's total allocation.

Digital tagging

The main mission contributing to the digital transition is Mission 1 on 'Digitalisation, innovation and economic competitiveness and culture" (overall estimated value: EUR 40 291 million). This mission contains a vast array of measures contributing to the digital transition estimated at around EUR 28 276 million and representing 58,8% of the plan's digital target. Several measures in this mission contribute towards the digital transition through a broad range of interventions, stretching from measures aiming at enhancing connectivity to measures aimed at improving the digitalisation of public administration and businesses.

Component M1C1 'Digitalisation, innovation and security in the public administration' (overall estimated value: EUR 9 722 million) contains measures contributing to the digital target for a total estimated amount of EUR 7 050 million. This component includes measures for a total of EUR 6 143 million notably aimed at (i) equipping the public administration with advanced digital infrastructures, fostering the uptake of cloud solutions and strengthening cybersecurity; (ii) rationalising and harmonising public administration's data centers; (iii) ensuring interoperability of public administration's databases in view of the implementation of the "Once Only Principle" and the accessibility of data through a catalogue of Application Programming Interfaces (APIs); (iv) improving the availability, efficiency and accessibility of all digital public services, tackling the digital divide and strengthening citizens' digital skills. In addition, the third axis of component M1C1 on the 'Organisational innovation of the Judicial System' contains measures estimated at EUR 2,3 billion aimed at strengthening the administrative and digital capacity of the judicial offices, also in view of further supporting the digitalization of judicial procedures.

Component M1C2 'Digitalization, Innovation and Competitiveness of the Production System' (overall estimated value: EUR 23 895 million) contains a significant number of measures contributing to the achievement of the digital target, for a total amount estimated at EUR 20 395 million. This component includes in particular (i) measures contributing to the digital target for a total of EUR 11 422 million, aimed at supporting the digital transition and the innovation of the production system through incentives to investments in cutting-edge and 4.0 technologies, research, development and innovation; (ii) measures contributing to the digital target for a total of EUR 8,194 million, aimed at fostering and facilitating the widespread deployment of very high capacity networks, including 5G and fiber, and space-related initiatives;(iii) measures contributing to the digital target for a total of EUR 780 million, aimed at promoting the development of innovative production chains and increase the competitiveness of Italian companies.

Component M1C3 'Tourism and culture 4.0' (overall estimated value: EUR 6 675 million) also contains measures contributing to the achievement of the digital target, for a total estimated amount of EUR 830 million. This includes the development of a national plan for the digitisation of cultural heritage, a digital identity certification system for cultural heritage, cloud infrastructure, software infrastructure services for cultural heritage, a tourist digital hub, as well as capacity building for culture operators to manage the digital transition.

The second mission that significantly contributes to the achievement of the digital target is Mission 4 on 'Education and research' (overall estimated value: EUR 30,876 million). This mission contains measures contributing to the digital target for a total estimated amount of EUR 7 483 million, representing 15,6 % of the plan's digital target. Measures contributing to the achievement of the digital target included under component M4C1 'Strengthening the provision of education services: from crèches to universities' and estimated at EUR 3 673 million in total include, in particular, the investment in Schools 4.0, the investment on digital teaching and on training on the digital transformation for school staff as well as the measure on teaching and advanced university skills. Measures contributing to the achievement of the digital target included under component M4C2 'From research to business' and estimated at EUR 2 464 million in total include, in particular, the establishment of a fund for the construction of an integrated system of research and innovation infrastructures and the measure related to the partnerships extended to universities, research centres, companies and funding of basic research projects.

The third mission that significantly contributes to the achievement of the digital target is Mission 6 on 'Health' (overall estimated value: EUR 15,626 million). This mission contains measures contributing to the digital target for a total amount equal to EUR 4 403 million, representing 9,2 % of the plan's digital target. These measures are included notably under component M6C2 'Innovation, research and digitalisation of the national health service', such as the digital update of hospitals' technological equipment (EUR 4 052 million) and investments aimed at strengthening the technological infrastructure and the tools for data collection, data processing, data analysis and simulation at central level of the Italian health system for improved efficiency in planning and deployment of healthcare services (estimated at EUR 1 673 million). The investment 'homecare as a first point of assistance for citizens' under component M6C1 also contributes to the achievement of the digital target for a total estimated amount of EUR 1 600 million.

The three other missions, Mission 3 on 'Infrastructure for sustainable mobility', Mission 5 on 'Inclusion and cohesion' and Mission 2 on 'Green revolution and ecological transition' also contain measures contributing to the achievement of the digital target, estimated respectively at EUR 3 330 million (6,9% of the plan's digital target), EUR 2 695 million (5,6% of the plan's digital target) and EUR 1 908 million (4,0 % of the plan's digital target).

In sum, the Plan contains measures that effectively contribute to the digital transition that account for an amount of EUR 48 094million to the digital transition, which, based on the methodology for digital tagging set out in Annex VII to the RRF Regulation **would represent 25,1 % of the plan's total allocation in grants and loans.** The digital contribution of each of the components of the recovery and resilience plan of Italy is set out in Table 4.5.3.

Table 4.5.3: % digital contribution by component.

Component	**Cost (EUR million)**	**Digital contribution (EUR million)**	**Digital contribution (percentage)**
M1C1. Digitalisation, innovation and security in the PA	9 722	7 050	3,7%
M1C2. Digitalisation, innovation and competitiveness of the production system	23 895	20 395	10,7%
M1C3. Tourism and culture 4.0	6 675	830	0,4%
M2C1. Circular economy and sustainable agriculture	5 265	446	0,2%
M2C2. Renewable energy, hydrogen, grid and sustainable mobility	23 778	1 444	0,8%
M2C3. Energy efficiency and renovation of buildings	15 362	-	0,0%
M2C4. Protection of land and water resources	15 054	18	0,0%
M3C1. Investments in the rail network	24 767	2 970	1,6%
M3C2. Intermodality and integrated logistics	630	360	0,2%
M4C1. Strengthening the provision of education services:from crèches to universities	19 436	3 573	1,9%
M4C2. From research to business	11 440	3 910	2,0%
M5C1. Employment policies	6 660	2 420	1,3%
M5C2. Social infrastructure, households, the community and the third sector	11 216	275	0,1%
M5C3. Special interventions for territorial cohesion	1 975	-	0,0%
M6C1. Local networks, facilities and telemedicine for local health care	7 000	1 280	0,7%
M6C2. Innovation, research and digitalisation of the national health service	8 626	3 123	1,6%
Total	**191 499**	**48 094**	**25,1%**

Digital transition

The Plan is expected to contribute to Italy's digital transition and overall it seems to be aligned with key objectives of the Digital Strategy of the Union and with the priorities related to digital set out by the Commission in the 2021 Annual Sustainable Growth Strategy. These measures support the European Flagships 'Connect', 'Modernise', 'Scale-up' and 'Reskill and upskill'. The plan encompasses a wide range of measures aimed at (i) enhancing connectivity, by accelerating the deployment of very high capacity networks, in particular 5G and fibre networks; (ii) improving the digitalisation of public administration, the justice, the health and the education systems as well as culture and tourism; (iii) fostering the digitalisation of Italian businesses with focus on industry 4.0 and (iv) addressing the human capital dimension, including basic digital skills and new skills for students and the workforce; (v) supporting, although to a more limited extent, the development and deployment of advanced digital technologies.

Overall, these measures are expected to contribute to improving the competitiveness and resilience of the Italian economy, while ensuring inclusiveness. In addition, these measures are expected to bring a transformational change and have a lasting impact.

Connectivity

Italy is taking advantage of the Recovery and Resilience Facility to achieve the 2030 European Digital Targets in connectivity. The broadband investment measure in Component M1C2, amounting to EUR 3,8 billion, aims at bringing gigabit connectivity to grey areas and scattered households in black areas. In the framework of the Italian Ultra-Broadband plan, and with complementing national resources, those actions if effectively implemented should guarantee the goal of providing all households with Gigabit connectivity by 2030. Additional sub-measures (amounting to EUR 0,8 billion) aim at ensuring connectivity at Gigabit speed to public schools, hospitals and remote islands. The plan is also expected to boost coverage of 5G networks. In particular, it envisages investments in market failure areas (M1C2, EUR 2 billion) to bring 5G connectivity to all households. Additional interventions for EUR 420 million are planned to realise 5G corridors (to facilitate the introduction of autonomous driving) along 2 645 Km of roads (some across-borders) and to bring 5G coverage to 10 000 Km of extra-urban roads (EUR 600 million). Finally, the measures for capillary 5G coverage are extended to local rural communties in order to support more efficient public services. The investments are ambitious and take into account the specificity of the Italian landscape; their fast implementation would lead to significant benefits by building the key enabling conditions for a widespread digital transition across the economy and society.

Digitalisation of businesses

The Plan addresses digitalization of businesses by focusing on stimulating the uptake of industry 4.0 technologies. In particular, component M1C2 includes 'Transizione 4.0', a system of tax credits aimed at supporting and accelerating the digital transformation of Italian companies. The scheme is based on an existing measure, which was however significantly modified and extended in its scope, also as a response to the COVID-19 crisis. The share of the scheme financed under the RRF, worth EUR 13,4 billion in total, includes tax credits for i) 4.0 tangible assets (EUR 8,9 billion), (ii) 4.0 intangible assets (EUR 1,9 billion), (iii) 4.0 training activities (EUR 0,3 billion), (iv) traditional intangible capital goods (EUR 0,3 billion) and (v) R&D&I (EUR 2,0 billion)[55].

The effective implementation of digital transformation processes requires a comprehensive action which puts capacity building at the core of investments. The Transition 4.0 measure supports the acquisition of 4.0 tangible and intangible goods as well as, to some extent, training on digital skills. In the implementation phase, a truly transformative effect can be obtained by linking the acquisition of capital goods with investments for the reskilling and upskilling of the workforce, including the upskilling of business owners, and the offering of apprenticeships opportunities for young people. Strengthening cybersecurity capacities in connection with technology investments is another important factor to take into account in the implementation phase (see also section 4.11).

Other measures on digital aspects in the Plan. Apart from "Transition 4.0", digital aspects are included in measures aiming at promoting the development of innovative production chains and the competitiveness of Italian companies (M1C2, EUR 1 900 million) or in measures with a sectorial scope (e.g. in the field of agriculture, under M2C1, EUR 160 million). Measures also partly support the digital transition of the audio-visual sector (M1C3, EUR 155 million).

The Plan also includes measures to strengthen support services and collaboration between businesses, universities and research centers. Measures envisaged in Component M4C2 support the uptake of digital technologies by enterprises by strengthening of technology transfer centers such as existing competence centers and the network of European digital innovation hubs, and encouraging collaboration between Universities, research centers and businesses (totalling around EUR 1,7 billion).

Human Capital

The Plan envisages investments to reduce the digital skill gap among the Italian population, as a condition to strengthen social inclusion. The digital needs of the general population and of people at risk of exclusion are addressed by the Component M1C1 EUR 135 million investment in a network of 2 400 Digital Facilitation Services nodes, which are access points providing in person and online training on digital skills. It is expected that the actions of these nodes will be reinforced by ESF+ funds and will be coordinated in the framework of the National Strategy for digital skills. In addition, the Plan strengthens the "Digital Civic Service" (M1C1, EUR 60 million), an initiative that will mobilise young Civic service Volunteer for projects dedicated to train persons at risk of digital exclusion (in particular the elderly).

Advanced digital skills development is addressed as part of broader measures to support a labour market in transition. The Plan will contribute to improve the academic offer in the

[55] Tax credits for traditional intangible goods and for R&D&I do not concur to the digital target.

field of digital technologies and increase the capacity of the higher-education system to provide digital education to university students and workers (M4C1, EUR 500 million). Moreover, the plan will finance Ph.D. courses in new technologies to meet the needs of innovative enterprises, which will finance part of the costs (M4C2, EUR 600 million, of which EUR 240 million contributing to digital).

The Plan includes an ambitious reform of the Public Employment Services (M5C1, EUR 4,4 billion), which include digital skills for the jobs of the 21st century. Measures to boost the dual system (by providing apprenticeship opportunities) and promote the civil service among young people can boost the acquisition of skills related to digital technologies and promote the entry of young people in the labour market, the impact on the digital transition will depend on how these measures will be implemented. Dedicated targets have been introduced to monitor the number of people benefiting from training in digital skills supported by Guaranteed Employability of Workers (GOL), with the aim of training 300 000 people specifically in digital skills over a total of 800 000.

Further measures in the Plan are aimed at ensuring digital skills training for personnel of the public sector. As part of the investments and reforms for the digitalisation of the public administration, the plan will set-up a system of Massive Open Online Courses on key competences including digital skills for civil servants (M1C1, EUR 139 million). For teachers, Component M4C1 provides for training on digital skills and digital teaching EUR 800 million in the framework of the National Digital School Plan. Finally for doctors, in the framework of the strengthening of the Electronic Health Record (EHR), training support in helping them feed the EHR is provided in Component M6C2 (EUR 300 million).

E-governement and digital public services

The Plan envisages an ambitious programme of digitalization of the public administration. In Component M1C1 planned investments for EUR 1,9 billion are envisaged to build a secure national cloud infrastructure for the public administration and the migration of local and central public administration’s IT system to a cloud-based system for a more efficient and secure delivery of public services. Measures for an additional EUR 2,0 billion are envisaged for the improvement of online public services fruibility (interoperability, accessibility and mobile options) and for completing key digital platforms like SPID and ANPR (i.e. eID and population registry). EUR 623 million are planned for reinforcing cybersecurity, including the establishment of a new National Cyber Security Agency, which will be also in charge of supporting the development of cybersecurity firms in Italy. Finally, the Plan envisages the reinforcement of the digital back-office and front-office of main central public administrations (EUR 611 million).

Additional sectoral investments are planned to support the digitalization of justice, mainly within the reinforcement of “the office of the trial”, which has among its tasks the digitalization of court files (EUR 2,3 billion in M1C1).

In the health sector, the Plan aims to address the covid-related challenges by investing on the completion of the Electronic Health Record (EHR), its interoperability across regional health systems and on the exploitation of data generated by its usage for the improvement of health risks monitoring (M6C1, EUR 1,6 billion). Investments in telemedicine solutions and digital upgrades of hospitals and diagnostic equipment will complement the EHR investment (M6C1 and M6C2, EUR 2,6 billion).

In the education sector, Italy plans to complement the measures included in the plan (M4C1, EUR 2,1 billion) with the support under other Union programmes (ERDF, REACT-EU) and national resources to realize the digitalization of classrooms, administrative processes and internal cabling.

Measures for digitalisation also cover the culture and tourism sectors, with the launch of a strategy and platform for the digitalisation of cultural heritage and a digital tourism hub as a “one stop shop” both for tourists and tourism operators.

Lastly, the plan envisages the extension of coverage of the European Rail Transport Management System (ERTMS) to 3 400 Km of rail network. The ERTMS will allow interoperability with other European rail networks and an improvement of the performance of railways systems in terms of safety, capacity and maintenance.

Investment in digital capabilitiesand deployment of advanced technologies

The Plan includes some investments in digital capabilities and the deployment of advanced technologies. An important measure aims at supporting the development of the strategic value chain of microelectronics by investing in Silicon Carbide substrates, which is a necessary input for the manufacturing of semiconductors and a key enabler of electric mobility and solar power conversion (M1C2, EUR 340 million) The measure would contribute to Europe’s open strategic autonomy. Other investments in advanced digital technologies are related to the cloud infrastructure for the public administration (described above).

Large investment in the Space Economy aims to increase the digital technology capacity of Italy. The SatCom sub-measure (M1C2, EUR 385 million) aims to develop a secure (with quantum key distribution) system of telecommunication satellites in emergency conditions. Another sub-measure aims to increase the capability for advanced earth observation (EUR 417 million) with a new satellite constellation whose outputs will also be available on-demand for third parties. Another sub-measure (EUR 235 million) plans for an upgrade of the satellite manufacturing process according to the Industry 4.0 paradigm. Finally, the last sub-measure (EUR 450 million) aims to increase the capability for tracking space debris also through the use of artificial intelligence.

Digital-Related Investment in R&D

The Plan includes some measures aimed at promoting R&D in the field of advanced digital technologies. The measure on national leaders on key emerging technologies (M4C2, EUR 1,6 billion) envisages investing in national research centres on some key digital technologies (such as AI, HPC, Quantum, depending on the results of competitive calls for proposals). The support to R&I Partnerships (M4C2, EUR 200 million) might include the partnerships on Key Digital Technologies and HPC. The Plan envisages funding support for approved and potential IPCEI projects (M4C2, EUR 1,5 billion) and some of the funding is expected to support Microelectronics and on Next Generation Cloud Infrastructure and Services.

Conclusion

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

4.7. Lasting impact of the plan

Strengthening administrative capacity is key to unleash the full potential of the investment and reform programme.

A wide range of reforms planned in crucial policy areas are expected to address longstanding bottlenecks and to accelerate project implementation. The reform and investment agenda will be managed through a two-staggered approach. The initial focus will be on streamlining administrative processes and other urgent measures, to be adopted before 2022, to prevent process bottlenecks to impede investment activity and the full and timely absorption of RRF funding going forward. The second pillar concerns the implementation of key structural reforms, which will be ensured through the adoption of primary and secondary legislation in the period after 2022. The impact of both types of reforms is expected to far outlast the implementation phase of the Plan.

An effective public administration is key for a successful implementation of the Plan. A better functioning of the public administration will support the implementation of the Plan and raise the quality and supply of public services. This will benefit both firms and citizens and particularly at the local level and in the South, thus also addressing the territorial divide. The reform of public employment and its recruitment process will better prepare staff and decisionmakers for pending challenges and help tailor public services closer to the needs of firms and citizens. An ambitious simplification agenda, inter alia targeted at shortening and simplifying tender procedures and coupled with sizeable investment in digital solutions, will significantly increase the pace and improve the effectiveness of the public administration. The above-mentioned reform measures will be crucial for a sound implementation of the Plan but also benefit the general business environment and thus develop positive and lasting effects far beyond the horizon of the Plan.

Fiscal-structural reforms are expected to improve the sustainability of public finances and support growth. The reform of the spending review is likely to to increase efficiency and shift public spending toward a more growth-friendly composition. In addition, the financial programming capacity and the fiscal discipline of the central administration set to be strengthened, while making the overall quantity and quality of public services more transparent. The completion of the reform of fiscal federalism is expected to improve the transparency of fiscal relations among the various levels of government and promote spending efficiency at the subnational level. The introduction of an accrual accounting system for all layers of the public administration is likely to facilitate the monitoring of public finances. Finally, the reform of the tax administration is expected to strengthen tax compliance and improve the effectiveness of the targeting of audits and controls, thus reinforcing the fight against tax evasion.

The green and digital transition and investments in the education and research system are expected to raise productivity and potential growth.

The green transition helps achieving a growth path that is resilient, inclusive and sustainable. Investments in renewable energies, energy efficiency, water management and environmental protection are designed to contribute to sustainability and to the fight against climate change. A total of EUR 70.9 billion of the Plan is allocated to green investment and set to scale up the pace of the green transition. These investments will pay off in the long term through fuel savings and low levels of pollution resulting from low-emission technologies and modern, smart and clean infrastructure. Moreover, the Plan offers new opportunities to exposed businesses and households, especially in vulnerable regions and communities, to ensure a just transition.

Firms and citizens stand to benefit from increased investment in digitalisation, as new technologies are key to providing economic, social and environmental sustainability. Digitalisation is viewed as a technology or supply shock with profound efficiency, productivity and employment effects and the intensified use of digital technologies is set to change the way how governments, business and citizens interact. Given that the uptake of digital solutions among citizens and businesses is still relatively low at the outset of the plan, the long-term impact of digital investment is expected to be substantial. The Plan allocates EUR 48 066 million to digital investments across a wide range of sectors and might crowd-in further private investment, with positive effects beyond the immediate economic impact. To ensure a lasting impact of measures to strengthen digitalisation of productive sectors, it is also important to create strong links between investments in digital technologies by businesses, training and employment policies (e.g. apprenticeship opportunities).

Planned reforms and investments in the education and research sectors have the potential to enhance the quality of human capital in the long run. The Plan includes measures to increase the quality of primary and secondary education, in particular by raising the minimum requirements to access the teaching profession and by providing training to existing teaching staff to give the next generations a thorough understanding of the twin transition. The reforms that target tertiary education, envisage the overhaul of degree groups and Ph.D programmes, while the research sector will strive for greater mobility between private and public research centers. These measures supported by significant investments in fostering new research initiatives are expected to sizeably improve the average level of education of younger generations and thus the quality of human capital also beyond the horizon of the Plan. Moreover, the pace of the development and diffusion of new technologies is set to rise and make the Italian economy more competitive.

Effective structural reforms are set to compound and sustain the investment stimulus.

Structural reforms are set to deliver positive long-term supply effects by enhancing efficiency through more intensive competition. Reforms to the labour market with the aim to raise participation rates or measures to boost competition are expected to increase labour supply and generate efficiency gains. In practice, the plan inter alia envisages to improve the overall business environment by reducing barriers to competition through Annual Competition Laws. Through the reinforced use of competitive bidding procedures to assign service contracts efficiency in sectors such as transport and water management are expected to structurally improve. The phase-out of regulated prices and enhanced competition in retail energy market will benefit consumers and make businesses more competitive. Higher competition at home will also be likely to help Italian business to maintain or gain a competitive edge abroad.

The Plan will put contracting authorities' relationship with private businesses on a new and mutually beneficial footing. Public procurement is a prerequisite for economic growth and public investment. The Plan will overhaul public procurement procedures in a comprehensive way, from initiating tender procedures, through awarding public supply contacts to the timelier settlement of payments. As a result, the improved offer and quality of public services will better meet the public's needs and support the transparency and efficiency of public expenditure, also contributing to greater social accountability. Furthermore, it creates an enabling environment for private sector-led growth, serving as a catalyst for private sector development by opening access to business opportunities, improving the business and investment environment, enhancing competition and promoting economic growth. Transparent and efficient procurement procedures and the timely payment of suppliers will help the public administration to achieve value for money and maximise the outcome for citizens in terms of enhanced human welfare and economic growth, while providing firms with higher predictability of investment decisions and cash inflows and supporting business development.

Reforms to the justice system will strengthen legal certainty and support structural change on a long-term basis. Planned reforms, including to the internal organization of the judiciary, have the potential to reduce procedural backlogs and the length of civil proceedings, thus providing greater legal certainty and predictability of legal decisions. For example, this will provide firms and investors with greater planning reliability in the case of insolvency procedures and help firms and investors to free locked-in capital, which can then be used for in the long term more productive business endeavours. Moreover, the reduction in the length of criminal proceedings is expected to step up the fight against corruption. These structural measures are likely to support corporate investment growth also far beyond the end of the Plan implementation.

The Plan is expected to help the Italian economy recover from the pandemic shock and cope with the profound longer-term structural challenges that the COVID-19 pandemic has intensified.

The measures included in the plan address the structural investment gap and the roots of longstanding structural impediments to growth. The swift adoption of measures to remove bottlenecks to investments, additionally buttressed by ongoing technical support provided by the Commission and inspired by best practices, is set to ensure an effective implementation of the Plan by 2026. Horizontal reforms, such as the ones in public administration, justice, fiscal structural, business environment and education address impediments to long-term growth, as identified by the Country-specific Recommendations of 2019 and 2020. They are designed to tackle the various determinants of low competitiveness and sluggish productivity growth of Italy. Furthermore, the investment programme set out in the Plan addresses the need for more public investment in crucial areas such as health, transport, energy generation and distribution and provides further support to businesses to successfully face the challenges and reap the benefits of the green and digital transition.

Overall, the Plan represents a comprehensive and ambitious set of reforms and investments whose impact is expected to extend beyond the initial implementation period. The impact of productivity-enhancing reforms and investment is likely to fully unfold beyond the implementation period. Structural reforms require time to implement but are likely to provide substantial long-term gains in terms of higher productivity and growth potential. The same is true for productive investments whose demand-stimulating effect in the short term is superseded by supply effects in the long term. According to Commission estimates, the Plan is expected to generate a significant growth effect. This is expected to lift the Italian economy into a higher growth path, with real GDP 2,6% higher by 2026 compared with a scenario without recovery and resilience plan, which will be sustained in the medium and long term.

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

4.8 Milestones, targets, monitoring and implementation

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

The envisaged monitoring and reporting mechanisms are well defined and in line with the intended purposes. In addition to the ordinary system required by national regulations for the correct use of financial resources, the plan provides for specific mechanisms and procedures targeted to the peculiarities of the Recovery and Resilience Facility. In particular, the correct fulfilment of milestones and targets is monitored and assessed notably through the functions assigned to the technical coordination structures, based on data provided by the owners of the measures at local, regional and central level. These technical coordination structures refer to those defined at the level of the central administrations responsible for the measures as well as to the central coordination structure established at the Ministry of Economy and Finance (in charge of control and reporting, also in view of submitting payment requests to the European Commission). An independent Audit Body will then verify the fulfilment of milestones and targets and the quality of the underlying data, ensuring the retention of audit documents and records as well as their outcomes. Finally, the monitoring system will benefit from a new integrated IT system (“ReGiS”) aimed at guaranteeing the electronic collection and exchange of data planned to be introduced in 2022; until then, the current systems used in the context of the ESI funds will be used and adequately adapted to the characteristics of the Recovery and Resilience Facility. In particular, these systems will monitor the progress and the fulfilment of milestones and targets through the creation of reporting dashboards based on data collected in centralized databases.

Milestones, targets and indicators

The set of milestones and targets of the Italian plan is broad and is appropriate for monitoring the plan’s implementation. The milestones and targets of the Italian plan appear to be sufficiently clear, realistic and with a good degree of ambition. They are designed to adequately reflect all the investments and reforms envisaged in the plan, including the most relevant phases for their adoption and implementation. The suggested indicators seem to be relevant, acceptable and sufficiently robust. On the one hand, targets are mostly quantitative, output-related, specific and relevant. On the other, milestones cover the key phases in the adoption of reforms and preparatory steps for the launch of investment. The overall high number of milestones and targets is considered to be justified in light of the size and complexity of the plan and they appear well distributed throughout the Facility's horizon.

In general, the milestones and targets of the plan appear relatively well distributed throughout the Facility's lifetime. In 2026 there is a peak in the number of targets, due to the nature of some investment which require time to be completed, such as for transport infrastructure, the extent of some investment involving a large number of operators and the final targets for the completion of most projects. Milestones and targets for reforms are frontloaded. Concerning investments, milestones and targets are backloaded for loans and rather flat for grants.

Overall organisational arrangements

The proposed arrangements identify clearly the bodies responsible for the monitoring and implementation of the plan and define their competences and duties. A steering committee ("cabina di regia") is established at the Presidency of the Council of Ministers with the main task to steer and monitor the overall implementation of the plan. Moreover, a consulting body for social dialogue, composed of representatives of local and regional authorities, social partners and other relevant stakeholders, is set-up. At technical level, a secretariat to support the activities of the steering committee and the consulting body is established at the Presidency of the Council of Ministers, together with a regulatory quality unit tasked with the identification of implementation bottlenecks stemming from regulatory issues and with the development of solution proposals. Importantly, a central coordination structure is established at the Ministry of Economy and Finance. The structure is organised in operational units with specific tasks and duties with the aim to perform the operational coordination and monitoring of the plan (including in relation to milestones and targets), the control of the regularity of procedures and expenses and the reporting, and the technical and operational support to the implementation phases of Plan. This centralised structure acts as a single point of contact at national level, as well as in the interactions with the European Commission. In addition, an Audit Body is established for the internal control system, to verify the fulfilment of milestones and targets as well as to protect the financial interests of the Union; its independence is ensured through an adequate segregation of functions. Finally, it is envisaged that coordination structures are identified at the level of each central administration responsible for measures included in the plan, tasked with the management, monitoring, reporting and control on the relevant interventions, including in relation to the supervision of implementation and progress towards the fulfilment of milestones and targets. Enforcement mechanisms in case of implementation issues, including through the activation of substitution powers vis-à-vis the administrations responsible for the measures of the plan, are introduced with the aim to guarantee a timely and effective delivery of projects and ex-ante mechanisms for the resolution of conflicts are also envisaged. The governance model, including its structures and related roles and responsibilities, has been enshrined in a legal act adopted by the government at the end of May 2021 (Decree-Law of 31 May 2021, n. 77), which contributes to the empowerment of the bodies involved.

Relevant actions to strengthen administrative capacity, including at local level, and simplify administrative procedures are envisaged to ensure an effective implementation and monitoring of the plan. In order to strengthen administrative capacity, the plan envisages a number of actions, including training to boost human capital and ad hoc temporary recruitments to support targeted interventions and provide the administrations involved with the necessary expertise, which have been also enshrined in a legal act (Decree-Law of 9 June 2021, n. 80). These actions will be implemented through measures envisaged under the recovery and resilience plan, but also through national resources, including the temporary recruitment of 2 800 units of personnel for public administrations of the South of Italy (which will reinforce human capital involved in the planning and spending of EU funds) and of staff for various structures and bodies. A number of additional actions are envisaged to strengthen administrative capacity, notably the provision of technical and operational support to administrations in the implementation of projects, including in particular through strengthened in-house or public bodies, and the provision of the possibility to resort to external expertise. Finally, these actions are accompanied by measures aimed at cutting red tape and simplifying administrative procedures, including in the areas of public contracts, environmental regulation, building and urban planning and regeneration, which have also been enshrined in a legal act (Decree-Law of 31 May 2021, n. 77).

The arrangements proposed by Italy 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

Italy has submitted information about cost estimates for all measures of the plan involving a cost. All measures across the six missions and 16 components of the plan include a cost estimate accompanied by information on how it was reached, consisting on references .

Reasonable Costs

The estimated costs are reasonable, with the volume and quality of information variyng across measures. The level of detail as regards the methodology and the assumptions made to reach those cost estimates varies across the plan. For some measures, there is a detailed and clear description of the methodologies and calculations made to reach the costing estimated and comparative cost data are provided referring to specific sources taken as a reference. They mostly relate to past projects carried out in the recent past, often financed by the European

Structural Investment Funds (ESIF). In other cases, those references take the form of studies, evaluations or even experiences developed in the private sector. For other measures, the description of the costing estimates is more concise: the methodology and references on the basis of which the costing estimates are based on, are not spelled out with the same level of detail. This is, in particular, the case for investments in railway infrastructure, where overall estimates are nonetheless within a plausible range.

Plausible Costs

The estimated costs are plausible, with methodologies and assumptions used varying across measures. In some cases, the costing estimate is reached by aggregating the estimated cost of the various inputs required for the implementation of the measure at stake. In other cases, the costing estimate is reached by referring to a unit cost of the output expected by that measure, using a methodology that is similar to the Simplified Cost Options used for some projects under ESIF. In a limited number of cases, the methodologies and assumptions are less robust.

All measures financed by the recovery and resilience plan for Italy refer to costs undertaken after 1 February 2020 and entail non-recurrent costs, except for duly justified exceptions. Even though certain steps for a few measures were taken before 1 February 2020, only those that started after 1 February 2020, and for which the entirety of the costs are recorded after that date, have been included in the plan. In addition, some costs such as staff costs classified under current expenditure in the European System of Accounts 2010 will be financed considering their strict temporary nature, their close link with the implementation of a specific investment or reform of the plan and their sustainability (e.g. justice). All costs are therefore fully in line with Article 5(1) of the RRF Regulation.

No double Union financing

The cost estimates of the plan provide an acceptable level of assurance about the risk of double funding. In terms of programming, the potential overlap between RRP and ESIF and CEF is significant. For this reason, for a significant number of measures, there is a reference that part of the project has been or is expected to be financed by other European budgetary sources, notably in the South of the country. The principle of additionality and complementary of funding of Article 9 of the RRF Regulation provides that the reforms and investment projects financed by the Recovery and Resilience Facility may receive support from other Union programmes and instruments provided that such support does not cover the same cost. The information provided by Italy´s recovery and resilience plan in some cases refers to specific type of cost expected to be financed by the various Union programmes, but details are not always clear enough or simply not provided. In addition, under the monitoring arrangements, the plan specifies that every administration responsible for the implementation of the various measures will make controls in relation to legality and regularity and will adopt the necessary measures to prevent, correct and sanction any misuse of funding, including the double funding of the same cost.

Commensurate to the expected social and economic impact of the plan

The costing estimates of the plan are commensurate to its expected economic and social impact. The plan is expected to contribute to effectively addressing all or a significant subset of the challenges identified in the relevant country-specific recommendations and contains measures that are expected to foster economic growth and economic cohesion in an inclusive manner, to boost the growth potential of the Italian economy, to stimulate job creation, and to mitigate the adverse effects of the crisis. More than EUR 122 billion out of EUR 191,5 billion are expected to be additional public investment, which, according to government estimates, is estimated to increase GDP by 3,6% and employment by 3,2% by 2026 compared to a scenario without the Recovery and Resilience Facility.

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

4.10 Controls and audit

Robustness of internal control system and distribution of roles and responsibilities

The Plan identifies a clear structure for the control system. The Italian recovery and resilience plan envisages an organizational structure aimed at ensuring: (i) the timely and effective implementation of the measures included in the plan, carried out by central administrations (Ministries), as well as by the regional and local authorities; (ii) the central coordination for monitoring the achievement of the milestones and targets and monitoring the implementation of the plan. At political level, a steering committee will be set up, with the task of monitoring the progress of the plan's implementation, with the possibility to propose the activation of substitute powers in case of implementation issues and the regulatory changes as necessary. At operational level, a central structure for the coordination and monitoring of the plan ("Central Service for the RRP") will be established at the Ministry of Economy and Finance – Department of State General Accounting. This structure will be composed of operational units for monitoring, financial management, control, reporting and technical and operational support. Moreover, coordination structures for the monitoring of plan's implementation will be identified at the level of each central administration responsible for the relevant measures.

The Plan establishes a dedicated Audit Body for the internal control system. The envisaged model provides for the establishment of an Audit Body responsible for the internal control system, to protect the financial interests of the Union and more specifically to prevent, identify, report and correct cases of fraud, corruption or conflict of interest. This body is established at the Ministry of Economy and Finance, Department of State General Accounting – IGRUE and its independence is ensured by segregation of functions. The 'MyAudit' IT application will be used for the reporting on, and monitoring of follow-up to, controls and audits and for the establishment of the summary of audits by the reporting unit within the Central Service for the RRP. The audit strategy of the Audit Body includes information on risk assessment, audit approach and resources. A systems audit on information systems, and in particular on the adequate collection and access to the data referred to in Article 22(2)(d) of the RRF Regulation, is planned to be carried out at the start of the plan's implementation, before the submission of the first payment request. Other national bodies fulfilling their role in the implementation of the plan in relation to its control system are the National Court of Auditors, the Economic and Financial Police (Guardia di Finanza) and the National Anti-Corruption Authority (ANAC).

The distribution of roles and responsibilities is enshrined in legal acts, which also envisage the simplification of procedures and strengthening of administrative capacity. As reform measures concerning the public administration are part of the recovery and resilience plan, the administrative arrangements for the implementation of the plan will also be subject to ongoing and future simplification and organizational strengthening measures. The Italian recovery and resilience plan further envisages a number of actions aimed at strengthening administrative capacity, including (i) the recruitment of human resources; (ii) the simplification of administrative procedures; and (iii) the provision of technical and operational support, including in relation to tools related to e-procurement and the unitary IT system ReGiS. The set-up of the relevant bodies and related mandates had been enshrined in Decree-Law of 31 May, n.77, which contributes to the empowerment of the implementation structures. The envisaged system presents a robust process and structure in its set-up, where roles and responsibilities are defined clearly and enshrined in legal acts. The relevant control functions are appropriately segregated and the strengthening of administrative capacity envisaged in the plan will play an important role. The adequacy of the arrangement of the arrangement also takes into account the envisaged system audit on the IT arrangements by the Audit Body, including as regards the collection of data under Article 22(2)(d).

Adequacy of control systems and other relevant arrangements

The Plan identifies specific bodies in charge of the control system. The technical annex to the recovery and resilience plan on implementation, monitoring, control and audit makes reference to all relevant institutions that will contribute to the prevention of fraud, corruption and conflict of interest. This is set to occur by means of own controls, obligation for all public administrations to establish a three-year Corruption and Transparency Prevention Plan, and controls by the Ministry of Economy and Finance, Department of State General Accounting. The operational unit for control, within the Central Service for the RRP, and the Audit Body will use the Commission data-mining and risk-scoring tool Arachne in their risk analysis for control and audit.

A dedicated IT system for monitoring is envisaged in the Plan. ReGiS[56], the unitary IT monitoring system, is set to contribute to several functions, including registration, management, monitoring, reporting, controls, audit, irregularities identification, both for financial and performance data (i.e. milestones and targets), and to be used by all levels of administration. Until the operationalization of ReGiS (envisaged by mid-2022), the existing IT systems used in the context of ESI funds will be used to report on the implementation of the plan. The systems currently in use will be appropriately adapted to manage the peculiarities of the Recovery and Resilience Facility; in particular, importance will be attached to the achievement of milestones and targets through the creation of reporting dashboards based on data collected in centralized databases. Transitional arrangements are also in place for the recoding of final recipient and (sub-)contractor data under art. 22(2)(d) of the RRF Regulation, based on a range of databases. The unitary system will also capture data on the implementation of operations financed by the national Fund complementary to the recovery and resilience plan, as well as data from programmes financed by the ESI funds 2021-2027 and the National Development and Cohesion Fund. Municipalities, regions as well as other bodies feed data into the IT system, which are then validated by the responsible Ministries and aggregated at plan level by the Ministry of Economy and Finance. A shared protocol and the information backbone already in place for monitoring the ESI funds 2014-2020 will be used.

[56] The ReGiS unitary system, provided by Art.1 paragraph 1043 of the Law no. 178 of 30 December 2020 (Budget Law 2021) is distinguished by a model that provides for the collection and storage of data relating to all the project initiatives envisaged in the recovery and resilience plan, up to the level of the final recipient in a single centralised database which, through interoperability services, can operate in a synergistic and integrated manner with the other tools that are used for the operational management of projects or systems for verification and control. The information is collected, in detail, by the owners of the interventions (Municipalities, Regions, Ministries, other Bodies) and made available to the individual Measures Administrations that validate it and send it to the Ministry of Economy and Finance which takes care of aggregation at the plan level and dissemination.

Transitional IT arrangements are envisaged until the operationalization of the new unitary IT system. The provided time-line for the implementation of the IT systems indicate that in July 2021 the transitional systems would be operational (measures set-up, financial set-up, governance module and temporary solution data ingestion) and the various ReGiS modules would become operational between March and July 2022, with data migration foreseen as of January 2022 and parallel runs as of March 2022. The unitary system and the transitional arrangements collect the data as required by Art.22(2)(d) of the RRF Regulation and allow for feeding data related to recovery and resilience plan into the Arachne IT system. The tool indicated for the analysis of the data relating to (sub-)contractors and final recipients is obtained by the national Anti-Corruption Authority (ANAC) through public administration databases, including, for instance, Tender Identification Code (CIG)-based databases. The Audit Body will verify that the data referred to in Article 22(2)(d) of the RRF Regulation in relation to the transitional IT arrangements are collected and accessible for the purposes of control and audit as established by the RRF Regulation. The proper functioning of internal controls, data-capturing arrangements and reporting structures, as well as the transition to ReGiS is critical for the reporting on the achievement of targets and milestones and for establishing payment requests. The transitional IT arrangements, progress in the development of a ReGiS and the actual transition to this system merit specific IT audit work by the Audit Body in respect of the capability of ReGiS to fulfill the functionalities described in the plan and in particular the integrity of data and maintenance of audit trail. For the transitional system, the findings of the Audit Body are expected to be included in the summary of audits with the first payment request. For the ReGiS system, reporting are expected to be defined upon transition to that system by mid- 2022.

The Plan envisages strenghtned arrangements for the *vis-à-vis* fraud and corruption. The Plan indicates that protocols between the Ministry of Economy and Finance and the National Anti-Corruption Authority (ANAC) and the Guardia di Finanza are being prepared, in order to exchange data and information and carry out targeted inspections on the prevention, identification and repression of violations to the detriment of the EU budget with reference to all phenomena of EU fraud and corruption. Implementing authorities may also conclude such specific arrangements with those authorities.

The envisaged control system is considered to be adequate. The controls system and other relevant arrangements, including for the collection and making available of data on final recipients, described in the recovery and resilience plan, in particular to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the Facility are sufficiently robust considering also the assurance provided by the performance of systems audit in relation to the transitional IT arrangements.

Adequacy of arrangements to avoid double EU funding

The arrangements to avoid double EU funding rely on different tools and are considered adequate. The risk analysis to determine projects subject to control and audit aims to target projects, contracts, contractors and beneficiaries more prone to risk of fraud including double funding of the same expenditure. The assignment, in compliance with current national regulations, of the unique project code (CUP) for each investment project registered in the system (in the first phase through the transitional arrangements and in a second phase through ReGiS) aims at preventing double financing and reducing the risk of fraud. The ReGiS unitary system will also be used for the management of ESI funds 2021-2027 and national sources of financing. This makes it possible to verify and monitor, within a single database, the projects financed under the recovery and resilience plan but also under other EU programs and national resources. The general and specific arrangements described in the recovery and resilience plan to avoid double funding from the Facility and other Union programmes are rated adequate.

Legal empowerment and administrative capacity of control function

The control function is legally empowered and the strengthening of administrative capacity is envisaged. Existing bodies involved in control functions are part of the national set-up; therefore, they are already empowered to perform their tasks. The new structures envisaged for the purpose of the monitoring and implementation of the recovery and resilience plan, including the Audit Body, have been established by means of a legal act (Decree-Law of 31 May 2021), which also defined their roles and responsibilities, thus contributing to their empowerment. The plan further envisages a number of actions to strengthen administrative capacity, including the recruitment of additional staff, the provision of operational support and the simplification of administrative procedures. A number of implementing acts will contribute to finalising the definition of the RRF (internal) control framework.

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

4.11 Coherence

Mutually-reinforcing measures

The components in the plan are overall coherent in their aim. The plan is also expected to contribute to address Italy's long-standing challenges, among which the sustainability of public finances and low productivity growth. The Plan contains some fiscal structural reforms that have the potential to contribute to the sustainability of public finances.The low productivity growth is addressed across components and missions of the Plan, thanks to both investment and structural reforms. The reforms of the public administration, the justice system and the business environment consistently aim at increasing the potential growth of Italy. Ultimately, the increase of potential growth is also expected to support the sustainability of public finances.

In addition, reforms and investments included in each component are mutually reinforcing with a good balance of reforms and investments, and significant synergies between the different components. Overall, the Plan includes 190 measures, made of 132 investments and 58 reforms, most of which of very extensive and widespread reach that will have positive spillovers horizontally on all economic and social activities. All these measures are part of a common strategy and consistently work together to tackle structural challenges and allow the deployment of the twin transition, create a growth-friendly economic environment and reduce social and territorial disparities.

Looking at the Plan as a whole, it can be derived that the measures envisaged in the plan reinforce and complement each other and contribute to the same objectives. The investment and reforms included in the Plan aim at reducing the Italian digital and innovation gap both among firms/companies and in the public administration to enhance productivity, competitiveness and resilience to changes. While the effort of digitalization and innovation is central in Mission 1 ("Digitalization, Innovation, Competitiveness, Culture and Tourism"), it spreads across all areas of public policies, since it concerns the continuous and necessary technological upgrading of production processes; it helps the transition towards more modern infrastructures, from energy to transport, where monitoring systems with sensors and data platforms are an innovative asset quality and safety management tool and where sustainable mobility necessarily relies on innovation and more environmental friendly technologies (Missions 2 "Green Revolution and Ecological Transition", and Mission 3 "Infrastructures for sustainable mobility"); it enhances schooling and education, introduces modern and innovation-oriented programs, induces the upgrade of teachers' and students' skills, fosters R&D activities, and the quality of buildings and infrastructures (Mission 4 "Education and Research"); it facilitates the process of upskilling, reskilling and life-long learning (Mission 5 "Inclusion and Cohesion"); it modernizes hospital infrastructures, medical equipment, research and scientific activities, staff's skills, in order to ensure the best possible level of healthcare and be as close as possible to all citizens (Mission 6 "Health"). At the same time the digitalization of the public administration and of the justice system are a necessary prerequisite to build a faster and more effective public services for businesses and citizens.

The measures related to the ecological transition also aim at enhancing competitiveness and creating new productive activities and stable jobs, while minimizing the environmental footprint of the country. Missions 2 and 3 are strictly interlinked in the effort to reduce Italian energy and technological dependency, GHG emissions, in order to pave the way for the country to meet the European environmental and climate targets. In doing so, they also intend to reduce the infrastructure gap between the North and South. The reduction of (technological and infrastructural) gaps between territories is a common path between Missions 1, 2 and 3, whereby a significant amount of resources will be devoted to the South in order to fill the digital, physical and social divide and bring better services and more job opportunities. At the same time, the creation of new jobs cannot work if not sustained also by investments and reforms on the education systems and the strengthening of R&D and innovative process pursued by Mission 4 and more up-to-date labour policies as per Mission 5.

The move towards a more digitalized, connected, sustainable and modern country will create employment possibilities for younger generations and women. This is true particularly in the currently more remote areas of Italy**.** The creation of new nursery and primary schools and the improvement of childcare services (Mission 4) will also have positive effects on women's access to the job market. In terms of specific economic sectors, the expansion and modernization of tourism and cultural services (Mission 1), which have a high proportion of women, is also expected to help increasing the female employment rate. More generally, the effort not to leave anybody behind is clearly at the hearth of Mission 5's inclusion and cohesion enhancing measures and, intuitively, of the improvement of the healthcare system in all regions (Mission 6). The Plans also includes links between investments for Industry 4.0 (Mission 1) and support services for digitalisation of businesses (Mission 4). It will be also important to link incentives envisaged under Transition 4.0 (Mission 1) with investments in human capital, apprenticeships opportunities and in reskilling and upskilling of workers (under Mission 5).

A wide set of structural reforms is expected to have an impact on the economic and social objectives of the Plan. The reform of the public procurement rules and the revision of the Code of Public Contracts are expected to impact on the large majority of investments, which will benefit from simplified procedures for the award of projects, services and infrastructure construction works and for the potential litigation arising from the award and execution phase thereof. The simplification of procedures will also have the indirect effect of reducing the litigation around the award of public contracts and increase the legal certainty for companies and businesses. The rules on late payment are designed to make the Public Administration's purchasing more attractive and competitive, with a consequent increase in the quality of the service/products offered. The Recovery Procurement Platform aims at modernizing and speeding up the national public procurement system to support the Plan's development policies. Also the reforms on environmental authorizations and those on urban planning and measures for urban regeneration are expected to significantly simplify the deployment of investments in Missions 1, 2, 3 and 4.

A significant boost to the competitiveness of the country will be brought also by the reforms stemming from the annual competition law. Such preriodic legislative intervention has been much awaited in the past few years but only once implemented. The Competition Law will have to be adopted each year, fostering competition and reducing barriers to entry in local public services, and avoiding the undue prolongation of concessions to incumbent operators in many sectors. With regard to sector specific measures, the annual Competition Laws feature interventions in the energy (electricity, gas and water), waste management, transport (ports, rail and highways) which intend to complement the investments and reforms under Mission 2 and 3. Also the Laws will be designed to make starting a business easier and plan to introduce new rules on market surveillance.

Complementarity of measures

Also looking at the coherence of each Mission, it appears that the Plan contains measures that mutually reinforce and complement each other. Reforms and investments under Mission 1 aim at reducing the structural gaps in competitiveness, productivity and digitalization. Investments in Component M1C1 focus on making the public administration more efficient, accessible and predictable. The digitalization and simplification of the public administration will help businesses and citizens obtaining quicker and more reliable reactions from all levels of the public administration. The reform on "good administration" and simplification of procedures is a necessary complement to the efforts on digitalization and accessibility of the public administation, as it will help drastically cutting the red tape for businesses and citizens, streamlining formalities and avoid unnecessary administrative burdens.

In the context of improving the effectiveness of the Public Administration , a central role is played by the civil and criminal justice reforms. These reforms, aimed at speeding up the length of judicial proceeding and reducing the backlog at all levels of the justice system can provide prompter, fairer, more legally clear response to all parties being involved in legal disputes.

In order to further enhance the overall economic context Component M1C2 aims at promoting innovation and digitalization of the whole production system. It envisages interventions across economic sectors such as stimulating investment in technology (Transition 4.0), research and development, accompanied by the reform of the industrial property system. As noted above, the component includes important investments to ensure coverage of the whole territory with ultra-broadband networks (FTTH fibre, FWA and 5G), which are necessary prerequisite for the modernization of the country. Moreover, M1C1 includes investments to reinforce cybersecurity.

For the green and ecological transition of Mission 2, the investments and reforms contained therein are centered around the common objective of achieving the targets set by the current Integrated National Energy and Climate Plan and the additional European and national environmental targets. The ecological transition is conceived together with a 'bureaucratic transition', which will include fundamental reforms in authorization processes and governance for many of the measures. For instance, the reforms on the national strategy for circular economy clearly strengthen the effectiveness of Component M2C1 to reach full environmental sustainability and to develop a smart and sustainable agricultural/food supply chain, reducing its environmental impact through green supply chains. In order to expand the objective of decarbonization to all sectors, Component M2C2 includes actions to significantly increase the penetration of renewables, through innovative and offshore solutions and the reinforcement/modernization of the networks. Investments on sustainable mobility, with a strong focus on electromobility, soft mobility and the adoption of hydrogen based solutions in line with the EU Hydrogen Strategy all go in the same direction. These measures are backed up by the necessary reforms such as the simplification of authorization procedures for onshore and offshore renewable installations and the reduction of regulatory barriers to the use of hydrogen. GHG reduction also goes through the increase in (private and public) buildings' energy efficiency, as envisaged in Component M2C3, which is also based on the simplification of the energy requalification procedures. Finally, the set of measures conceived in Component M2C4 to protect and restore the "territory", as to mitigate the hydrogeological, preservation of green areas and biodiversity, the elimination of water and soil pollution, complement the above efforts to make the country more resilient to inevitable climate change.

In this context and to complement the interventions on GHG reductions, Mission 3 brings forward more specific interventions on mobility. The measures contained in the first component are intended for the development of the Italian rail system, while the second component — Intermodality and integrated logistics — provides for measures to support the modernisation and digitalisation of the logistics system. In close connection with the structure of this Mission, reforms on road safety 4.0 will improve the safety and climate/seismic resilience of bridges and viaducts, using the solutions provided by technological innovation and with a view to adapting to climate change.

Planned reforms and investments in the education and research systems as presented in Mission 4 jointly contribute to enhance the quality of human capital in the long run. The reforms and investments for the teaching professions are designed to increase the quality of primary and secondary education by increasing the requirements to access the profession and by providing training to the existing teachers to accompany the twin transition for the next generations. Reforms and investments included in the two components of Mission 4 are quite complementary to address the current skill mismatch between education and labour demand, the low percentage of adults with tertiary qualifications and creating synergies between universities and companies, supporting innovation and technology transfer processes, strengthening skills to spread innovation. On tertiary education, particularly on degree groups and Ph.D programmes, the reform of the research system allowing mobility amongst private and public research centers is coupled with significant investments for fostering research and innovation. These actions will impact the quality of human capital in the time horizon of the RRF and beyond while mutually reinforcing the circle between university and business through innovation.

The complementarity of reforms and investements related to inclusion and cohesion (Mission 5) consists of covering a wide array of social topics. This mission covers from active labour market policies in component M5C1, to social inclusion with actions targeted towards vulnerable and disadvantaged groups in component M5C2, to conclude with territorial cohesion including interventions for the resilience of internal, peripheral and mountain areas, through the strengthening of Inner Areas and projects for the development of the South.

Mission 6 (health) is built around two components that aim at strengthening proximity services and digitalizing the national healthcare system ensuring standard services across Regions. A significant amount of resources is allocated in component M6C1 to create new infrastructures (such as Community Health House and Community Hospitals) to deliver proximity services and digital endowments to provide Home care. Component M6C2 complements these actions with a focus on technological and digital update of hospitals and on the development of human capital, through the modernisation of the knowledge tools and platforms of content, as well as the development of professional skills. The package of reform and investments will help overcome the fragmentation of healthcare delivery by improving the access and continuity of care and by addressing the need for an improved care governance pathway in a multidisciplinary approach. The Plan addresses the multi-layer provision of healthcare services (primary, secondary, tertiary care), ensures a more homogenous quality of care across the territory and support a more adequate deployment of medical treatments.

In order to promote wider coherence across instruments, notably with the European cohesion policy funds, a balanced territorial allocation of resources is encouraged.

Taking into consideration the qualitative assessment of all components of Italy's recovery and resilience plan, their individual weight (importance, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a high extent, represent coherent actions. This would warrant a rating of A under the assessment criterion 2.11 of Annex V to the RRF Regulation.

ANNEX – TAGGING TABLE

			Climate		Digital	
Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Int. Field	Coeff . %	Int. Field	Coeff. %
M1C1-I1.1-1	Digital infrastructure	900			055	100%
M1C1-I1.2-2	Cloud enablement for local PA	1 000			011	100%
M1C1-I1.3-3	National Digital Data Platform	556			011	100%
M1C1-I1.3-4	Single Digital Gateway	90			011	100%
M1C1-I1.4-5	Citizen experience - Improvement of the quality and the usability of digital public services	613			011	100%
M1C1-I1.4-6	Citizen inclusion - Accessibility improvement of digital public services	80			011	100%
M1C1-I1.4-7	Adoption scale up of PagoPA platform services and the “IO” app	750			011	100%
M1C1-I1.4-8	Adoption scale up of the National Digital Identity platforms (SPID, CIE) and the national registry (ANPR)	285			011ter	100%
M1C1-I1.4-9	Digitization of public notices	245			011	100%
M1C1-I1.4-10	Mobility as a Service for Italy	40			011	100%
M1C1-I1.5-11	Cybersecurity	623			021quinquies	100%
M1C1-I1.6-12	Digitization of the Ministry of the Interior	107			011	100%
M1C1-I1.6-13	Digitization of the Ministry of Justice	133			011quater	100%
M1C1-I1.6-14	Digitization of National Social Security Institute (INPS) and National Institute for Insurance against Accidents at work (INAIL)	296			011	100%
M1C1-I1.6-15	Digitization of the Ministry of Defense	43			011	100%
M1C1-I1.6-16	Digitization of the Council of State	8			011	100%
M1C1-I1.6-17	Digitization of the Finance Police	25			011	100%
M1C1-I1.7-18	Digital Civic Service	60			108	100%
M1C1-I1.7-19	Network of digital facilitation services	135			108	100%
M1C1-R1.2-21	Transformation support	155			011	100%
M1C1-I3.1-34	Organisational Innovation of Justice - Sub-measure - Hiring of human capital to strengthen the	907			011quater	100%

	Judicial Office and overcome the disparities between the different judicial offices					
M1C2-I1-36	Tax credit for tangible 4.0 capital goods (Annex A)	8 868			010	100%
M1C2-I1-37	Tax credit for intangible 4.0 capital goods (Annex B)	1 914			010	100%
M1C2-I1-40	Tax credit for training acrivities	300			108	100%
M1C2-I2-41	Innovation and technology of microelectronics	340			021quater	100%
M1C2-I3-42	Plan Italia 1 Gbps	3 864			051	100%
M1C2-I3-43	Italia 5G	2 020			051	100%
M1C2-I3-44	Connected Schools	261			051	100%
M1C2-I3-45	Connected Helth care facilities	502			051	100%
M1C2-I3-46	Connected smaller islands	61			051	100%
M1C2-I4-47	SatCom Initiative	385			055bis	100%
M1C2-I4-48	Earth Observation	417			055bis	100%
M1C2-I4-49	Space Factory	235			009bis	100%
M1C2-I4-50	In-Orbit Economy	450			009bis	100%
M1C2-I5-51	Refinancing and remodelling of Fund 394/81 managed by SIMEST	1 200			015	40%
M1C2-I5-52	Competitiveness and resilience of supply chains	750			015	40%
M1C3-I1.1-54	Digital Strategy and Platforms of Culture Heritage	500			011	100%
M1C3-I1.3-56	Improve energy efficiency in cinema, theatres and museums	210	026	40%		
M1C3-I2.1-57a	Attractiveness of Small Historic Towns_energy efficiency of public buildings	560	026	40%		
M1C3-I2.1-57b	Attractiveness of Small Historic Towns_energy efficiency of SMEs	100	024	40%		
M1C3-I2.3-59	Programs to enhance the identity of places: parks and historic gardens	300	050	40%		
M1C3-I3.2-62a	Development of the film industry (Cinecittà project)_digital component	61			011	100%
M1C3-I3.2-62b	Development of the film industry (Cinecittà project)_construction of energy efficient studios	165	025ter	40%		
M1C3-I3.2-62c	Development of the film industry (Cinecittà project)_energy efficiency renovations	65	026	40%		
M1C3-I3,3-63	Capacity building for culture operators to manage the digital and green transition.	155			021bis	100%

M1C3-I4.1-64	Digital Tourism Hub	114			011bis	100%
M1C3-I4.2-65	Funds for the competitiveness of tourism enterprises - Improvement of the infrastructure of receptivity through the instrument of Credit -EIB Tourism Thematic Fund (under the EIB FoF) for development and resilience of tourism enterprises - MiSE guarantee fund to support the birth and consolidation of SMEs in the tourism sector - Digitization, innovation, competitiveness and culture through a specific participation of the Ministry of Tourism in the National Tourism Fund	893	025	40%		
M2C1-I1.1-71	Implementation of new waste management plants and modernization of existing plants	1 500	042	40%		
M2C1-I1.2-72	Circular economy “flagship” projects	600	042	40%		
M2C1-I2.1-73a	Logistics plan for the agri-food, fishing and aquaculture, forestry, floriculture and plant nursery sectors_innovative technologies in agro-industrial production	324	047	40%		
M2C1-I2.1-73b	Logistics plan for the agri-food, fishing and aquaculture, forestry, floriculture and plant nursery sectors_digital solutions for logistics	216			010	100%
M2C1-I2.1-73c	Logistics plan for the agri-food, fishing and aquaculture, forestry, floriculture and plant nursery sectors_zero emission transport solutions	180	079	40%		
M2C1-I2.1-73d	Logistics plan for the agri-food, fishing and aquaculture, forestry, floriculture and plant nursery sectors_reduction of waste	40	047	40%		
M2C1-I2.1-73e	Logistics plan for the agri-food, fishing and aquaculture, forestry, floriculture and plant nursery sectors_renewable energy production	40	029	100%		
M2C1-I2.2-74a	Agri-solar Park_energy efficient renovations	750	029	100%		

M2C1-I2.2-74b	Agri-solar Park_energy efficient renovations_energy efficient cooling systems	525	024	40%		
M2C1-I2.2-74c	Agri-solar Park_solar panels	225	024	40%		
M2C1-I2.3-76b	Innovation and mechanization in the agricultural and food sectors_precision farming	200			084	100%
M2C1-I2.3-77	Innovation and mechanization in the agricultural and food sectors_oil sector	100	047	40%		
M2C1-I3.1-78a	Green islands_energy efficiency	34	026	40%		
M2C1-I3.1-78b	Green islands_zero emission	6	072bis	100%		
M2C1-I3.1-78c	Green islands_waste management	10	042	40%		
M2C1-I3.1-78d	Green islands_solar energy	50	029	100%		
M2C1-I3.3-80	Circular Economy and Sustainable Agriculture - Investment 3.3: Culture and awareness on environmental topics and challenges	30	027	100%	021bis	100%
M2C2-I1.1-86	Development of agri-voltaic systems	1 099	029	100%		
M2C2-I1.2-88	Promotion of RES for energy communities and jointly acting renewables self-consumers	2 200	029	100%		
M2C2-I1.3-89	Promotion of innovative systems (including off-shore)	675	028	100%		
M2C2-I1.4-90	Development of biomethane, according to criteria for promoting the circular economy	1 908	030bis	100%		
M2C2-I2.1-92	Strengthening smart grids	3 610	033	100%	033	40%
M2C2-I2.2-93	Interventions to increase the resilience of power grid	500	037	100%		
M2C2-I3.1-94	Production of Hydrogen in brownfield sites (Hydrogen Valleys)_production	350	032	100%		
M2C2-I3.1-95	Production of Hydrogen in brownfield sites (Hydrogen Valleys)_R&D	150	022	100%		
M2C2-I3.2-97	Hydrogen Use in hard-to-abate industry	400	027	100%		
M2C2-I3.3-98	Hydrogen testing for road transport	230	077	100%		
M2C2-I3.4-99	Hydrogen testing for railway	300	077	100%		

	mobility			
M2C2-I3.5-101	Hydrogen Research and Development	160	022	100%
M2C2-I4.1-102	Investment in soft mobility (National Plan of Cycle Path)	600	075	100%
M2C2-I4.2-103	Development of Rapid Mass Transport systems (metro, streetcar, BRT)	3 600	073	100%
M2C2-I4.3-104	Charging infrastructures	741	077	100%
M2C2-I4.4-105	Renewal of the regional public transport bus fleet with clean fuels vehicles	1 650	074	100%
M2C2-I4.4-105b	Renewal of the regional public transport bus fleet with clean fuels vehicles	765	073	100%
M2C2-I4.4-106	Renewal of the regional public transport railway fleet with clean fuels trains and universal service	800	072bis	100%
M2C2-I4.4-107	Renewal fleet for the National fire brigade command_vehicles	123	n/a[57]	100%
M2C2-I4.4-109	Renewal fleet for the National fire brigade command_recharging	18	077	100%
M2C2-I5.1-110	PV technology	400	029	100%
M2C2-I5.1-111	Wind industry	100	028	100%
M2C2-I5.1-112	Battery industry	500	022	100%
M2C2-I5.2-113	Hydrogen	450	022	100%
M2C2-I5.3-115	Electric buses	300	027	100%
M2C2-I5.4-116	Support to start-ups and venture capital active in the ecological transition	250	022	100%
M2C3-I1.1-117	Construction of new schools through building replacement -	800	025ter	40%

[57] 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); a 40% climate contribution coefficient for plug-in hybrid light-duty vehicles; and, in line with the criteria under the Taxonomy Regulation, a 100% climate coefficient for low-emission heavy-duty vehicles.

	School building replacement and energy upgrading plan					
M2C3-I1.2-118	Efficiency of judicial sites: Construction of buildings, requalification and strengthening of real estate assets of the administration of justice in an ecological vein	114	026	40%		
M2C3-I2.1-121	Strengthening of the Ecobonus and Sismabonus until 110% for energy efficiency and building safety	12 053	025bis	100%		
M2C3-I3.1-123	Promotion of efficient district heating	200	034bis	100%		
M2C4-I1.1-124	Implementation of an advanced and integrated monitoring and forecasting system	500	035	100%		
M2C4-I2.1-125	Measures for flood and hydrogeological risk reduction	1 287	035	100%		
M2C4-I2.1-126	Measures for flood and hydrogeological risk reduction	1 200	035	100%		
M2C4-I2.2-127	Interventions for the resilience, the enhancement of the territory and the energy efficiency of the Municipalities_climate change	3 000	035	100%		
M2C4-I2.2-128	Interventions for the resilience, the enhancement of the territory and the energy efficiency of the Municipalities_energy efficiency	3 000	026	40%		
M2C4-I3.1-129	Protection and enhancement of urban and peri-urban forests	330	050	40%		
M2C4-I3.2-130	Digitization of national parks. Nature conservation - monitoring of pressures and threats on species and habitats and climate change	82	050	40%		
M2C4-I3.2-131	Digitization of national parks. Digital services to visitors to national parks and marine protected areas	14			054ter	100%
M2C4-I3.2-132	Digitization of national parks. Administrative simplification - Digitisation and simplification of procedures for services provided by Parks and Marine Protected Areas	4			011	100%
M2C4-I3.3-133	Re-naturification of Po area	357	050	40%		

M2C4-I3.5-135	Restoration and protection of the seabed and marine habitats	400	049	40%		
M2C4-I4.1-136	Investments in primary water infrastructures for the security of water supply	2 000	040	40%		
M2C4-I4.2-137	Reduction of losses in water distribution networks, including digitization and monitoring of networks	900	039bis	40%		
M2C4-I4.3-138	Investments in the resilience of the irrigation agrosystem for better management of water resources	880	040	40%		
M2C4-I4.4-139	Investments in sewerage and purification	600	041bis	40%		
M3C1-I1.1-140	High-speed railway connections to the South for passengers and freight (Napoli - Bari)	1 400	064	100%		
M3C1-I1.1-141	High-speed railway connections to the South for passengers and freight (Palermo-Catania)	1 440	064	100%		
M3C1-I1.1-142	High-speed railway connections to the South for passengers and freight (Salerno-Reggio Calabria)	1 800	064	100%		
M3C1-I1.2-143	High-speed lines in the North connecting to Europe (Brescia-Verona-Padova)	3 670	064	100%		
M3C1-I1.2-144	High-speed lines in the North connecting to Europe (Liguria-Alpi)	3 970	064	100%		
M3C1-I1.2-145	High-speed lines in the North connecting to Europe (Verona-Brennero - opere di adduzione)	930	065	100%		
M3C1-I1.3-146	Diagonal connections (Roma-Pescara)	620	068	100%		
M3C1-I1.3-147	Diagonal connections (Orte-Falconara)	510	068	100%		
M3C1-I1.3-148	Diagonal connections (Taranto-Metaponto-Potenza-Battipaglia)	450	065	100%		
M3C1-I1.4-149	Introducing the European Rail Transport Management System (ERTMS)	2 970	071	40%	071	100%
M3C1-I1.5-150	Strengthening metropolitan nodes and key national links	2 970	068	100%		
M3C1-I1.6-151	Strengthening regional lines - Upgrading of regional railways (management RFI)	936	069	40%		
M3C1-I1.7-	Upgrading, electrification and	2 400	069	40%		

152	resilience of railways South					
M3C1-I1.8-153	Upgrading railway stations (RFI management; in South)	700	069	40%		
M3C2-I1.1-154a	Green ports: renewable energy and energy efficiency interventions at ports_energy efficiency	68	026	40%		
M3C2-I1.1-154b	Green ports: renewable energy and energy efficiency interventions at ports_solar energy	124	029	100%		
M3C2-I1.1-154c	Green ports: renewable energy and energy efficiency interventions at ports_pollution reduction	27	048	40%		
M3C2-I1.1-154d	Green ports: renewable energy and energy efficiency interventions at ports_clean transport	30	074	100%		
M3C2-I1.1-154e	Green ports: renewable energy and energy efficiency interventions at ports_recharging stations	22	077	100%		
M3C2-I2.1-155	The digitalization of the logistic chain_LogIN Center	30			084	100%
M3C2-I2.1-156	The digitalization of the logistic chain_Network of ports and freight terminals	45			084	100%
M3C2-I2.1-157	The digitalization of the logistic chain_LogIN Business	175			084	100%
M3C2-I2.2-159a	The digitalization of air traffic management_optimization	80			084	100%
M3C2-I2.2-158b	The digitalization of air traffic management_digitisation	30			084	100%
M4C1-R1.7-166	Reform of student housing regulation and investment in student housing	960	025	40%		
		780	026	40%		
M4C1-R2.1-174	Integrated digital teaching and training on the digital transformation for school staff	800			108	100%
M4C1-I3.2-178	School 4.0: innovative schools, wiring, new classrooms and workshops	2 100			012	100%
M4C1-I3.4-180	Teaching and advanced university skills	500			108	100%
M4C1-I4.1-182	Extension in number and career opportunities of PhDs (Research-	432			016	40%

	oriented, Public Administration and Cultural Heritage)					
M4C2-I1.3-186a	Partnerships extended to universities, research centers, companies and funding of basic research projects	483	023	40%		
M4C2-I1.3-186b	Partnerships extended to universities, research centers, companies and funding of basic research projects	483	022	100%		
M4C2-I1.4-187	Strengthening research structures and supporting the creation of "national R&D leaders" on some Key Enabling Technologies	480	022	100%		
M4C2-I1.4-187	Strengthening research structures and supporting the creation of "national R&D leaders" on some Key Enabling Technologies	240	023	40%		
M4C2-I1.4-187	Strengthening research structures and supporting the creation of "national R&D leaders" on some Key Enabling Technologies	240			009bis	100%
M4C2-I1.5-188	Establishing and strengthening of "innovation ecosystems for sustainability", building "territorial leaders of R&D"	1 300			019	40%
M4C2-I2.1-189a	IPCEI_digital	900			021quater	100%
M4C2-I2.1-189b	IPCEI_green	600	022	100%		
M4C2-I2.2-190a	Partnerships in research and innovation – Horizon Europe_green	120	022	100%		
M4C2-I2.2-190b	Partnerships in research and innovation – Horizon Europe_digital	80			009bis	100%
M4C2-I2.3-191	Strengthening and sectorial/ territorial extension of technology transfer centres by industry segments	350			010	100%
M4C2-I3.1-192	Fund for construction of an integrated system of research and innovation infrastructures	1 580			055	100%
M4C2-I3.3-194	Introduction of innovative doctorates that respond to the needs of innovation by enterprises and promote the hiring of researchers by	600			016	40%

	companies					
M5C1-I1.1-198	Active Labour Market Policies (ALMPs) and Vocational Training	4 400			016	40%
M5C1-I1.2-199	Creation of women's enterprises	400			100	40%
M5C1-I1.4-201	Strengthening the dual system	600			016	40%
M5C1-I2.1-202	Universal Civil Service	650			099	40%
M5C2-I1.2-207	Autonomy patterns for people with disabilities	275			012	100%
M5C2-I3.1-215	The Sport and Social Inclusion project	350	026	40%		
M5C2-I3.1-215b	The Sport and Social Inclusion project	350	025ter	40%		
M5C3-I4-220	Infrastructural investments for the Special Economic Zone	630	078	40%		
M6C1-I1.1-221	Proximity networks, facilities and telemedicine for territorial healthcare assistance - Community Health House to improve territorial health assistance	1 600	025ter	40%		
M6C1-I1.2-223	Home as the first place of care and telemedicine	1 280			013	100%
M6C2-I1.1-224	Digital update of hospitals' technological equipment	1 450			095	100%
M6C2-I1.3-227	Strengthening of the technological infrastructure and of the tools for data collection, data processing, data analysis and simulation	1 673			095	100%