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Italy's National Recovery and Resiliency Plan's climate impact

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Theme

The Italian National Recovery and Resilience Plan (NRRP), the largest in Europe, mostly directs resources to pre-COVID national needs due to pre-existing socio-economic weaknesses and infrastructure delays. It may offer the opportunity to carry out key national reforms that have been long overdue, but it fails to allocate resources to transformative projects in the key climate dimensions.

Summary

The Italian Recovery Plan is the largest in Europe, with a budget of €261 billion, of which €191.5 billion are expected to come from the Recovery and Resilience Facility (RRF), €13 billion from React EU, €30.5 billion from a Complementary fund of national resources[1] and €26 billion from additional national resources. The NRRP submitted to the Commission in May refers to a budget of €235.1 billion, including RRF (€191.5 billion), react-EU (€13 billion) and the complementary fund (€30.5 billion) as they all follow the same governance rules as required by RRF. The EU Commission assessment focuses on the €191.5 billion of the RRF only. In our text, unless otherwise specified, 'NRRP' refers to the EU budget of €191.5 billion. Its resources have been mainly directed to pre-COVID socio-economic needs and weaknesses that have been exacerbated by the pandemic. It had to focus on some key reforms to meet the EU semester recommendations such as fiscal and judicial reforms, public administration efficiency and social cohesion measures that were pending implementation in the Italian policy agenda over the past decades. The European Commission in its evaluation of the Italian NRRP acknowledges it reaches the required 37% in climate-related investments[2] in line with EU regulations. However, this paper argues that the Italian NRRP's climate impact is limited. The sum of NRRP climate projects do not add up to an effective climate strategy. Overall, it does not efficiently allocate resources to transformative projects in the key climate dimensions: renewables in the electricity sector, energy efficiency or electrification of transport. In conclusion, considering all the projects proposed, the Italian recovery strategy may be judged as a missed opportunity for Italian climate strategy with

[1] Established by Italian Decree-Law No. 59 of 6/V/2021, based on the multi-year budget variance approved by the Italian Council of Ministers on 15/IV/2021.

[2] More precisely, the EC estimates that 37.5% of Italy's NRRP supports climate objectives. See https://ec.europa.eu/info/files/proposal-council-implementing-decision-approval-assessment-recovery-and-resilience-plan-italy_en.

a high national debt exposure, at 160%, that might jeopardise future public support for climate targets.

Analysis

The economic context and the COVID impact

The Italian Recovery Plan is the largest recovery plan in the EU, with an overall budget of €261 billion. Within Italy's Recovery Plan, the NRRP amounts to € 191.5 billion. Most of the budget comes from European resources, especially from the Recovery and Resilience Facility (RRF) with nearly €68.8 billion in grants and €122.6 billion in loans, of which €69.1 billion are allocated to pre-existing projects and €53.5 billion are allocated to new ones, and additional €13 billion are expected to come from REACT- EU budget. In addition, Italy's Recovery Plan mobilizes €30.5 billion from national resources to create a Complementary Fund to be managed with the same governance rules adopted for Next Generation EU (NGEU), and a further €26 billion to finance selected high-speed railway infrastructure up to 2032 not linked to the EU recovery budget regulation. The NRRP was submitted on 30 May 2021 and obtained EU Commission's approval on 23 June.

Figure 1. The various funds of the Italian Recovery Plan (€261 bn)

Governance	Fund	Amount (€ bn)
Recovery resources, identified in the Italian NRRF as submitted to EU on 29/V/2021 all following RRF governance rules	Recovery Resilience Facility (RRF)	191.5
	Of which grants	*68.9*
	Of which loans for existing projects	*69.1*
	Of which loans for new projects	*53.5*
	React – EU	13
	Complementary Fund (national resources)	30.5
Total		235
Additional national resources as allocated within 2032 to specific projects	Additional resources	26
	Total	261

Source: Italian Government (2021), https://www.governo.it/sites/governo.it/files/PNRR.pdf, page 22; European Commission (2021), https://ec.europa.eu/info/system/files/italy-recovery-resilience-factsheet_en.pdf; and Italian Parliament (2021), https://www.governo.it/it/articolo/pnrr-le-comunicazioni-alla-camera/16727.

Of its €750 billion, Next Generation EU allocates nearly 25% of its budget to Italy with an overall effort of €191.5 billion. The formula adopted by the Commission to allocate NGEU resources, which includes population, GDP per capita, average unemployment rate in the last five years and Covid GDP impact in 2020-21, takes into consideration the severity of the COVID-19's impact and Italy's prior socio-economic weaknesses.

The COVID-19 crisis has severely impacted the Italian economy with an 8.9% GDP contraction in 2020 compared with an average 6.2% reduction in the EU's GDP. The national debt is expected to rise to 160% of GDP by the end of 2021, up from nearly 130% pre-COVID-19, with the deficit having reached 10% in 2020 and expected to be at 7.6% in 2021.

Over the past 20 years Italy's GDP experienced a slow growth, with a total increase of 7.9% (1999-2019) compared with 30.2%, 32.4% and 43.6% in Germany, France and Spain, respectively. In the same period total investments in Italy grew by only 66% against 118% in the Euro area with a significant decrease in public investments, from 14.6% in 1999 to 12.7% in 2019. Italy's productivity rate is growing at a significantly slower pace compared with the rest of Europe. From 1999 to 2019 GDP per worked hour grew by 4.2% in Italy compared with 21.2% in France and 21.3% in Germany. The overall Italian productivity factor decreased by 6.2% in 2019 compared with 2005, against a general increase at the EU level.

These weak economic indicators have inevitably related social impacts. Between 2005 and 2019 the number of people below the absolute poverty line rose from 3.3% to 7.7%, with a further increase in 2020 to reach 9.4%; the high percentage of youth unemployment is over 30%, while the employment rate for women is 53.8%, far below the 67.3% EU average. The poor indicators are greater in the southern part of the country, where the process of convergence with the richest area of the country has halted.

Within this context, the Italian government had to present a detailed investment and reform plan (the NRRP) to gain access to most of the available funds (€191.5 billion). To this end, it originally declared its intention to submit the NRRP on 15 October, in order to access the first NGEU instalment (10% of the allocated budget) as early as possible to face the COVID-19 emergency. However, the plan was finalised only a few days before the April 2021 deadline. In between, a change of government occurred, with Mario Draghi, former President of the EU Central Bank (2011-19), taking over from Giuseppe Conte following the no-confidence vote of a minor political party (Italia Viva) on the grounds of an unsatisfactory Parliamentary consultation process by the Government during the NRRP's drafting phase.[3]

The new government was formed in mid-February 2021, collecting votes from 85% of Parliament, from left- to right-wing parties, including all three largest parties from the 2018 election (the populist Movimento 5 Stelle, the centre-left Democratic Party and the far-right Northern League). The Government inherited a version of the NRRP text that

[3] To clarify, the NRRP only needed to be sent for approval to the European Commission.

was relatively advanced, having been approved by the Council of Ministers and already forwarded to Parliament in January.

The final draft prepared by the new Government, compared to the previous one, strengthened the supporting NRRP governance structure and focused on the reforms to complement the Recovery strategy. In line with the EU semester recommendations, as requested by EU regulation 2021/248, the Italian NRRP needs to include a plan to reform the judicial and fiscal systems, and to improve the public administration's efficiency and market competitiveness together with an implementation agenda. Some changes, compared with the previous NRRP draft, may also be found in the budget allocated to the specific project areas.

The EU Commission completed its assessment on the Italian NRRP on 22 June, giving it the green light and nine 'A level' marks on assessment criteria as defined in the NGEU's regulation, and one 'B level' mark on the matter of costs.

The NRRP (€191.5 billion) consists of six major missions and three main horizontal dimensions: (1) climate change; (2) digital impact; and (3) national cohesion. The Italian NRRP declares a 40% expenditure on climate change, 27% on digital impact and 40% on national cohesion with investments directed towards the southern regions. The Commission assessment of June 2021 considers the climate expenditure lower than the government's estimates and equal to 37.5% of the total expenditure. Specifically, the EU assessment reduces by €3 billion the climate budget compared with the Italian proposal in sustainable agriculture and the circular economy, energy efficiency and sustainable mobility, respectively.[4] The EU assessment has not found components that are considered harmful for the environment, although the Plan includes resources for fossil fuel technologies such as gas boilers and gas buses, which can hardly be considered part of the green transition strategy.

With reference to the climate dimension, despite the confirmation from the EU assessment of 37.5% of total resources directed to climate-related projects, environmental organisations and E3G's Green Recovery Tracker assessment have criticised most projects decided within the overall Italian Recovery Plan[5] on the grounds of their limited effectiveness in tackling climate change. The following analysis will focus first on the description of the Italian NRRP, its missions and project areas, and subsequently on an assessment focused on its climate dimension. Since the React EU and the Complementary Fund are both subject to the same governance as the NRPP and contribute to the six missions, they have been included in the analysis.

The recovery plan's structure

The Italian recovery plan as submitted to EU is structured in six major chapters, named missions. Only projects following NGEU governance (NGEU, React EU and ITA Complementary Fund) are grouped into missions for a total of €235 billion. The additional

[4] M2C1, M2C2 and M2C3.

[5] The E3G assessment analysed the NRRP, the React Eu fund and the complementary fund for a total of almost €235 billion.

€26 billion from national resources do not follow NGEU governance and are mainly allocated to the development of high-speed railway infrastructure.

Figure 2. EU recovery plan budget as submitted to the EU (€ bn)

Missions	Recovery plan budget (€ bn)	NRRP budget (€ bn)
Digitalisation, innovation, competitiveness and culture	49.86	40.73
Green revolution and ecological transition	69.94	59.33
Infrastructure for sustainable mobility	31.46	25.13
Education and research	33.81	30.88
Inclusion and cohesion	29.83	19.81
Health	20.23	15.63
Total	235.13	191.5

Source Italian NRRP, retrieved from https://www.governo.it/sites/governo.it/files/PNRR.pdf.

- Mission 1, for digitalization, innovation, competitiveness and culture amounts to €40.73 billion and is mainly directed towards the digitalisation of the public administration and of private citizens' homes, to innovation and competitiveness of the private sector and to the promotion of tourism and national culture. The mission includes 5G connection infrastructures and satellite technologies, the enhancement of electronic payment platforms, resources to increase competitiveness and the transformation of the productive system, including some €5 billion in capitalisation for the Industry 4.0 programme.
- Mission 2, for the green revolution and ecological transition, amounts to €59.33 billion and includes, as described below, four programmes including projects in agriculture and the circular economy, renewable energy and electricity infrastructure, hydrogen development, energy efficiency, resources for local transport and biodiversity and adaptation.
- Mission 3, for infrastructures for sustainable mobility, amounts to € 25.13 billion and allocates the budget to railway infrastructure development, the completion of the high-speed train network and its connection to the regional network. Some resources from the Complementary Fund are also devoted to the development of port infrastructures.
- Mission 4, for education and research, amounting to €30.88 billion, covers a number of projects from primary to higher education, including universities, for their infrastructure and extension and the requalification of buildings, as well as for research activities; it increases the supply of childcare facilities, reforming the teaching profession and improving active labour market policies as well as the participation of women and youth in the labour market and reinforcing vocational training, investing in the apprenticeship system.

- Mission 5, for inclusion and cohesion, amounts to €19.81 billion to enhance social and territorial cohesion by promoting the transformation of vulnerable territories into smart and sustainable areas by investing in social housing, strengthening local social services to support children and families, improving the quality of life of people with disabilities and investing in infrastructure for the Special Economic Zones in southern Italy where enterprises benefit from fiscal incentives and the administrative simplification of procedures.
- Mission 6, for health, includes projects amounting to over €15.63 billion in healthcare, telemedicine and homecare: using new technologies to improve hospitals and home healthcare including the enhanced use of telemedicine while reducing territorial fragmentation.

Horizontal targets and the climate dimension

The horizontal structure of the NRRP (€191.5 billion) includes the climate dimension for a total of 40% of the overall budget, mostly coming from missions 2 and 3. The digital dimension adds up to 25% of overall investments, mostly included in the €49 billion from mission 1, the social cohesion dimension grouping the budget of missions 4, 5, and 6.

The digital innovation component includes:

- The development of ultra-fast and 5G networks: fostering 1 Gbps[6] connectivity across the country and providing 5G coverage including along 2,600 km of 5G corridors and 10,000 kilometres of roads.
- The digitalisation of businesses: promoting the uptake of digital technologies by companies through a tax credit scheme aimed at supporting and accelerating their digital transformation (€13.4 billion).
- The digitalisation of the public administration: building a secure national cloud infrastructure, ensuring interoperability of platforms and data services and fostering a widespread adoption of key digital public services.

The social cohesion component includes:

- The education and labour market: increasing the supply of childcare facilities, reforming the teaching profession, improving active labour market policies and the participation of women and youth in the labour market and reinforcing vocational training, investing in the apprenticeship system.
- The public administration and justice system: reforming and modernising public employment, strengthening administrative capacity, and reforming and digitalising civil and criminal courts in order to reduce the length of court proceedings.
- The business environment: improving public procurement and local public services, reducing late payments and removing barriers to competition.
- Enhancing social and territorial cohesion: promoting the transformation of vulnerable territories into smart and sustainable areas by investing in social housing, strengthening local social services to support children and families, improving the

[6] Giga Bit per second.

quality of life of people with disabilities and investing in infrastructure for the Special Economic Zones in southern Italy.

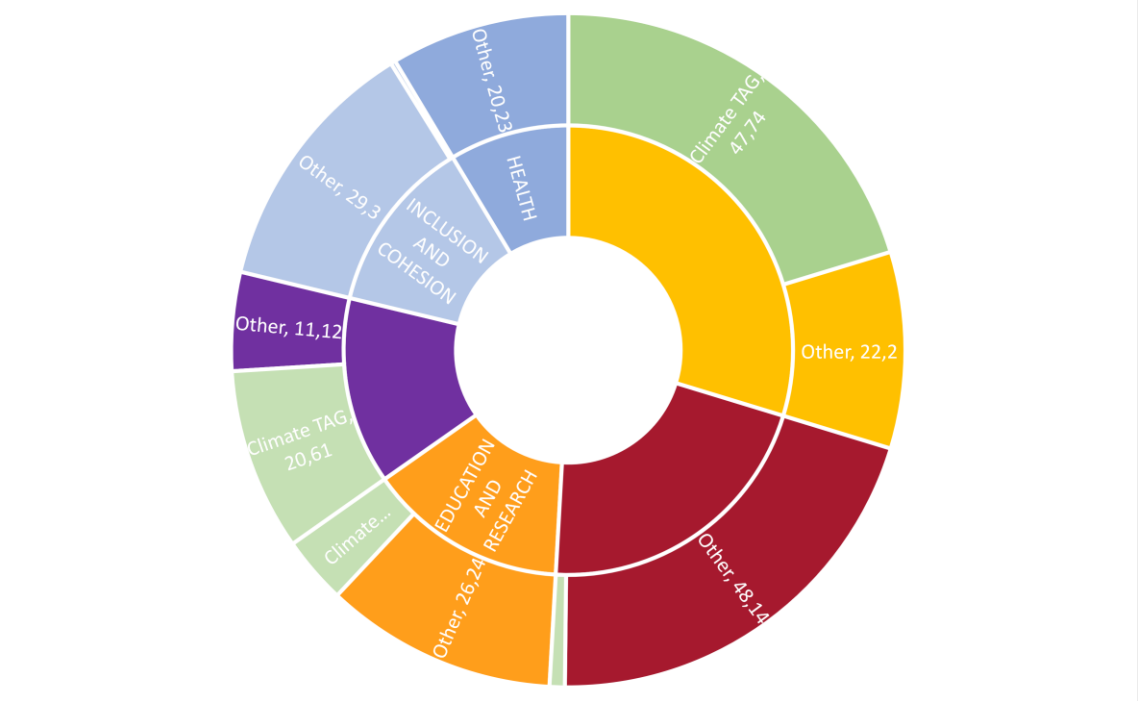
- Healthcare, telemedicine and homecare: using new technologies to improve hospitals and home healthcare, including the enhanced use of telemedicine while reducing territorial fragmentation.

The climate component tagged almost €78,2 billion and accounts for 40,8% of Italy's NRRP. The EC's assessment only marginally reduced the climate budget contribution to 37,5% reducing the climate budget by €3 billion. A table listing the projects and the related climate tag was made available at the time of submitting the plan to the EU Commission.[7]

The climate dimension

The climate dimension is included in five out of the six NRRP missions. Missions 2 and 3 total nearly 90% of the total climate budget, 61% and 26% respectively. Mission 4 contributes an additional 10% with educational and research budgets and some resources for the refurbishment of educational buildings and related energy efficiency improvements. Mission 1, which is devoted to digitalisation, innovation and the competitiveness of the public administration and the productive system, only contributes to 1% of the climate horizontal dimension with some resources for energy efficiency in the culture sector.

Figure 3. The six missions comprising the Italian NRRP and their climate tag (in € billion)



Source: ECCO, based on NRRP data.

[7] Reproduced in Figure 4 in the Annex.

Mission 2, the core of climate budget, is structured in four main areas: (1) sustainable agriculture and the circular economy; (2) renewable energy, hydrogen and sustainable mobility; (3) energy efficiency and renovation of public buildings; and (4) land and water protection. The four mission areas are hence detailed by a number of budget lines corresponding to project areas. The Annex below lists all projects included in mission 2.

The first area, 'sustainable agriculture and circular economy' (€5.27 billion), includes projects for the development of waste management infrastructure in support of waste recycling targets (€1.5 billion) and for supply chain contracts in agriculture, fisheries, forestry and floriculture (€0.8 billion), but only allocates limited resources (€0.6 billion) to flagships circular economy projects. Other relevant budget lines include the development of a food supply chain including the financing of agrisolar[8] parks (€1.5 billion). Other projects for a total of €1.3 billion complete the budget lines with respect to sustainable agriculture and circular economy.

The second area, 'renewable energy, hydrogen and sustainable mobility' (€23.79 billion), includes:

- €8.58 billion to develop a more sustainable local transport with €3.6 billion for local mass public transport infrastructures, €3.94 billion to renew bus and train fleets, €0.74 billion for the installation of 27,000 recharging points for electro-mobility and €0.6 billion to strengthen cycling mobility.
- €5.9 billion to increase renewable production by the development of agrivoltaic parks for an expected capacity of 2GW (€1.1billion), supporting PV development in small municipalities for an expected capacity of 2GW (€2.2billion), offshore technologies (€0.68 billion), most likely wave-tidal projects (200MW), without clear reference to off-shore wind, and the development of biomethane (€1.92 billion).
- €4.11 billion to upgrade and digitalise network infrastructure with €3.61 billion for the strengthening of smart grids in large municipalities to support the trend towards electrification, including mobility and to increase network climate resilience.
- €3.19 billion to promote the production, distribution and end-use of hydrogen with projects in abandoned industrial areas, in support of decarbonisation strategies in hard-to-abate industrial sectors (€2 billion), pilot projects in the transport sector (road and rail) and R&D.
- €2 billion in research and development for renewable technologies, hydrogen, storage for electric buses and start-up support and venture capital for the ecological transition.

The third area, 'energy efficiency and renovation of public buildings', with investments amounting to €15.22 billion, directs most of the budget to a pre-existing fiscal mechanism, named *ecobonus*, which finances through a fiscal rebate mechanism 110% of energy efficiency refurbishment costs in private building and social housing. The budget line also includes resources to refurbish 192 schools (out of 32,000 school buildings at the national level) and judicial offices and for district heating infrastructure.

[8] Agrisolar or agrivoltaic park is a fotovoltaic park which is integrated into agricultural activities without reducing the land productivity. It may be integrated into the existing structures, cover road and unproductive rural area or partially shadow agricultural production.

The fourth area, 'land and water protection', amounting to €15.06 billion, includes measures to prevent and reduce the effects of climate change on hydrogeological instability and land vulnerability, safeguard air quality and land biodiversity through protection of green areas, soil and marine areas and strengthen forecasting capacity on climate-change impacts.

A climate assessment of the plan

The Italian NRRP has been approved by the EU Commission on the basis of the rules defined in annex VI of the EU's NGEU regulation. However, a more in-depth assessment of its contribution to climate goals arguably leads to the conclusion that the NRRP is ineffective in the achievement of national climate targets as it does not allocate sufficient economic resources to transformative and innovative projects, relevant for the national decarbonisation strategy. Most environmental organisations and climate think tanks at the national and international levels have pointed out that the sum of projects in the NRRP, however compliant with annex VI, do not amount to a climate strategy.

The three main criticisms of Italy's NRRP are: (1) a poor cost-efficiency ratio of 'climate' expenditure and the lack of relevant projects in the three core decarbonisation dimensions of renewable energies, energy efficiency and e-mobility; (2) a limited impact on absolute CO_2 emissions and the absence of a CO_2 impact assessment for most 'climate' projects; and (3) an unclear alignment of the plan with the national climate strategy, the LTS and NECP.

Lack of significant projects in the three core decarbonisation dimensions

The arguments criticising the Plan focus on the three flagship dimensions of decarbonisation:

(1) Power-up. The NRRP directs resources to marginal areas of energy transition. Agrivoltaic, green island and distributed PV plans in small municipalities are niche areas for renewable development. Overall, the Italian NRRP wants to develop, during its implementation, 4.2GW of new renewables compared with the need for some 6 GW per year to catch up with the 2030 target in order to reach the NECP target. The EU guidelines have recommended developing, through NRRPs, at least 40% of the 500GW by 2030 needed in Europe. The Italian NRRP, which accounts for 20% of NGEU, should have promoted at least 20 GW of new capacity. However, the core of Italy's NRRP is based on reforming the authorisation process, which is not guaranteed to work, and on future, not further detailed, initiatives to support developing renewable capacity and storage without identifying the resources. The projects set out in the Plan are not significant either in developing new capacity or in directing resources towards renewables with the most potential, such as offshore wind farms. Finally, the resources for storage do not seem aligned with the goal of 10GW by 2030 (as in Italy's NECP), which can be judged too low considering the need to adjust Italy's NECP to the new EU target (reducing GHG emissions by 55% by 2030 compared with 1990 levels).

(2) Renovate. As regards energy efficiency, the resources are mainly being disbursed by means of the 'Ecobonus', a 110% reimbursement mechanism. Despite its cost, it does not guarantee the achievement of adequate levels of energy efficiency. In some cases, the emission reductions achieved via building up refurbishment may even be below the 30% emission reduction requirements of the Regulation.[9] The incentive scheme also provides access to fossil fuel technologies such as gas boilers. Resources are also not being allocated to public buildings, which receive funding for generic renovation (not tagged in climate expenses) without the application of energy efficiency requirements. In fact, the high energy efficiency expenditure, which is generally recognised as a strong climate characteristic of the Italian NRRP, does not correspond to a high and long-term energy efficiency impact, but rather to high costs. The nearly €20 billion budget without cost-effectiveness monitoring should rather be seen as a threat to the Italian energy efficiency strategy, similarly to what occurred in 2009-11 when PV incentives led to the present blockage in renewable development, given that high costs have increased electricity tariffs.

(3) Recharge and refuel. Despite the size of the budget, when it comes to transport the Italian Plan is not able to map out a strategy for e-mobility. All resources allocated are skewed towards investment in medium- and long-distance railway travel, with only a secondary role for local urban transport and no resources for the electrification of road transport (with the exception of €0.8 billion for 27,000 charging points out of the 3 million needed by 2030, as indicated in the NECP). Italy's recharge and refuel infrastructure investments will have an insignificant impact on reducing the carbon emissions of transport and on improving air quality in cities, the first specific transport-related recommendation for Italy in the European Semester.

The contribution to the climate target

The NRRP does not include climate impact assessments for most of its projects and when a CO_2 impact estimation is available the climate impact is negligible. The NRRP as submitted to EU itself sets out the Italian goal of reducing CO_2e by 51% compared with 1990.[10] This goal appears solely in the NRRP and is not a national decarbonisation goal. In quantitative terms the goal of a 51% reduction compared with 1990 implies a further reduction of 174 Mt CO_2 eq with respect to 2018 emissions. When assigning resources, the Plan does not link the measures funded with the quantitative goal reported, nor does it include emission impact assessments with the expenditure. The impact in terms of CO_2e is only reported in a few sections. The total impacts quantified by the Plan show a contribution to only 3% of the 2030 goals. In total the plan quantifies a reduction of 5.6 Mt CO_2e.

Other measures, such as supporting local transport, the possibility of transitioning the steel industry towards sustainability and increasing energy-efficiency in buildings will

[9] Note 6. Annex VI, REGULATION (EU) 2021/241 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12/II/2021 establishing the Recovery and Resilience Facility.
[10] Page 120: 'all the measures put in place will help to achieve and exceed the goals set by the NECP in force, currently being updated and reinforced with a more than 51% reduction in CO2 compared with 1990 to reflect the new ambitions set out by Europe, and to reach the additional European and national environmental goals (eg, on the circular economy, sustainable agriculture and biodiversity under the European Green Deal).'

lead to further reductions. However, the lack of a quantitative assessment of the measures means it is impossible to measure their efficacy, or to weigh up alternative options which may be more cost-effective or have a greater impact. The very fact that the measures are not quantified shows that decarbonisation is not being considered the motivation for spending.

The alignment with climate policy: NECP

The NRRP (€191.5 billion) refers to the NECP but resources are not assessed for their effective contribution to the 2030 decarbonisation target to be aligned with the energy and climate plan. There is no coherence between the NRRP and the NECP target in renewable, storage, electrification of road transport and storage development. In addition, the NRRP does not mention the need to adjust the NECP to the 55% reduction target agreed at the EU level compared with the pre-existing 40% one, thus increasing the gap between the identified measures and the necessary impact. The connection between the NRRP and the NECP is stronger when dealing with the related NRRP governance implementation decree. In particular, Decree 77/2021 wants to speed up the administrative procedure for developing the energy infrastructures included in NECP 2018, such as gas infrastructure, also in support of the coal phase-out commitment for 2025. The impact of the Decree, still uncertain in its success to unlock renewable permitting procedures, is rather more effective in speeding up authorisation and environmental impact procedures for gas infrastructure, which can hardly be seen as indispensable if the NECP had been updated.

The Plan's governance

The Plan's governance envisages the direct responsibility of Italy's Ministries and local governments in carrying out the investments and reforms that they are to implement within the agreed timeframe, and for the regular, proper and effective management of resources. Italy's capacity to spend the EU budget is a structural country weakness where a sizeable part of the latter remains unspent at the national level. For instance, as highlighted in a recent report of the European Court of Auditors, Italy spent only 30.7% of EU funds in 2014-19. The Recovery Fund sets the principles for NRRP Governance and the following Governance and Administrative simplification Decree (77/2021) implements the Governance structure. The Governance of the NRRP therefore follows a tailored structure which differs from ordinary EU budget expenditure governance procedures.

The Decree contains provisions defining the roles covered by the various administrations involved as well as the methods of monitoring the Plan and the dialogue with the European authorities. Governance is focused on the establishment of a 'control room' (*cabina di regia*), chaired by the President of the Council of Ministers, in which the competent Ministers and Undersecretaries participate from time to time according to the issues addressed in each session. The control room exercises powers to direct, boost and provide general coordination on the implementation of the NRRP interventions. The duties of the control room include the transmission to Parliament of a report on the Plan's implementation every six months, the transmission, at the request of the parliamentary committees, of any useful information to evaluate the progress of the implementation of the Plan, and its impact and effectiveness, with particular attention paid to supporting

policies for the employment and socio-economic integration of young people, gender equality and the participation of women in the labour market.

A significant role will be played by local authorities, which are responsible for investments amounting to over €87 billion (45% of the NRRP's €191.5 billion). The President of the Conference of Autonomous Regions and Provinces takes part in the control room, when the issues concern several regions and, in addition, the President of the ANCI (association of Italian municipalities) and the President of the UPI (association of Italian provinces) when matters of local interest are examined. In that case, the Minister for Regional Affairs and Autonomies also participates.

The Italian Ministry of Economy and Finance will monitor progress in the implementation of reforms and investments and will be the sole point of contact with the European Commission. Finally, a Steering Committee will be set up at the Presidency of the Italian Council of Ministers.

Depending on the topic addressed, the representatives of associative bodies and economic and social stakeholders might also be invited. Article 3 of the Decree also envisages the establishment of a permanent Consultation Committee comprising economic, social and territorial stakeholders, with consultative functions that can report to the control room and to the central service for the NRRP. The components of the Committee are identified on the basis of the greatest representativeness and proved experience according to selection criteria to be defined by the Government.

Conclusion

The Italian recovery plan mobilises an unprecedent amount of resources from the EU budget to be spent at the national level. Italy had to address an unprecedent social and economic crisis due to the impact of COVID-19 on its fragile economy. This has resulted in an NRRP focused on national socio-economic priorities with a limited impact on climate change.

The Italian NRRP has been positively assessed by the EU Commission (as have all EU NRRPs), it does not support environmentally harmful projects and it is compliant with the 37% climate expenditure conditionality required by the EU. But the sum of climate projects does not provide an effective climate strategy.

The plan is not able to efficiently allocate resources to transformative and relevant projects in the three key decarbonisation dimensions: renewable energy in the electricity sector, energy efficiency and the electrification of road transport. The overall estimated climate impact is negligible compared with the amount of resources. The NRRP may be judged as a missed opportunity for Italy's climate strategy and the high national debt exposure, 160%, which may jeopardise the future public support for climate targets.

Annex

Figure 4. Climate tag in the NRRP (€191.5 bn)

Mission	Title	NRRP € bn	Tag climate	Tag climate (%)
M1	DIGITALISATION, INNOVATION, COMPETITIVENESS AND CULTURE	40.73	1.72	4
M1C1	DIGITALISATION, INNOVATION AND SAFETY IN THE PUBLIC ADMINISTRATION	9.75	0.36	4
1.1	Digital infrastructures	0.90	0.36	40
M1C3	Tourism and culture	6.68	1.36	20
1.	Cultural heritage for the next generation	1.1	0.12	11
1.3	Improve energy efficiency in cinemas, theatres and museums	0.3	0.12	40
2	Regeneration small cultural sites, cultural, rural and religious heritage	2.72	0,53	19
2.1	Attractiveness of villages	1,02	0.41	40
2.3	parks and historical gardens valorisation	0,3	0.12	40
4	Tourism 4.0	2,4	0.71	30
4.2	Touristic businesses competitiveness	1,79	0.71	40
M2	GREEN REVOLUTION AND ECOLOGICAL TRANSITION	59.33	47.73	80
M2C1	SUSTAINABLE AGRICOLTURE AND CIRCULAR ECONOMY	5,27	3,11	59
1	Improve efficient and sustainable waste management and the circular economy paradigm	2,1	0,84	40
1.1	Construction of new waste management plants and modernization of existing ones	1,5	0.60	40
1.2	Circular economy flagship projects	0,6	0,24	40
2	Develop a sustainable food supply chain	2,81	2,02	72

2.1	Logistic development for the agricultural, fisheries, forestry and floriculture sectors	0,8	0,32	40
2.2	Agrisolar Park	1,5	1.5	100
2.3	Innovation and mechanisation in the food and agricultural sector	0,5	0,2	40
3.	Development of integrated projects	0,37	0,25	67
3.1	Green Islands	0,2	0,08	40
3.2	Green Communities	0,14	0,14	100
3.3	Culture and awareness raising on environmental issues	0,03	0,03	100
M2C2	RENEWABLE ENERGY, HYDROGEN, SUSTAINABLE MOBILITY	23,79	22,14	93
1	Increase the amount of energy produced from renewable sources	5,9	5,9	100
1.1	Agri-voltaic development	1,1	1,1	100
1.2	Renewable energy promotion for energy communities and self-consumption	2,2	2,2	100
1.3	Promotion of innovative plants (including off-shore)	0,68	0,68	100
1.4	Development of biomethane	1,92	1,92	100
2.	Upgrade and digitalise network infrastructure	4,11	4,11	100
2.1	Smart grid strengthening	3,61	3,61	100
2.2	Measures on the climate resilience of the networks	0,5	0,5	100
3	Promote production, distribution and end-use of hydrogen	3,19	1,99	62
3.1	Production in abandoned industrial areas	0,5	0,5	100
3.2	Hydrogen use in hard-to-abate sectors	2	0,8	40
3.3	Experimentation of hydrogen for road transport	0,23	0,23	100
3.4	Experimentation of hydrogen for railway transport	0,3	0,3	100

3.5	R&D on hydrogen	0,16	0,16	100
4.	Develop a more sustainable local transport	8,58	8,58	100
4.1	Strengthening of cycling mobility	0,6	0,6	100
4.2	Development of rapid mass transport	3,6	3,6	100
4.3	Development of infrastructure for electric charging	0,74	0,74	100
4.4	Fleet renewal bus and green trains	3,64	3,64	100
4.4.1	Fleet renewal – BUSES	2,42	2,42	100
4.4.2	Fleet renewal – SHIPS	0,8	0,8	100
4.4.3	Fire department	0,42	0,42	100
5	Develop international leadership on industry and R&D and development of the main supply chains for the transition	2	1,55	78
5.1	Renewables and batteries	1	1	100
5.3	Electric buses	0,3	0,3	100
5.4	Start-up support and venture capitals for the ecological transition	0,25	0,25	100
M2C3	ENERGY EFFICIENCY AND RENOVATION OF PUBLIC BUILDINGS	15,22	13,08	86
1.	Energy efficiency public buildings	1,21	0,48	40
1.1	Substitution plan of school buildings and energy efficiency upgrading	0,8	0,32	40
1.2	Efficiency of judicial offices	0,41	0,16	40
2.1	Ecobonus and Sismabonus up to 110% for energy efficiency and safety in buildings	13,81	12,4	90
3.1	Development of district heating systems	0,2	0,2	100
M2C4	LAND AND WATER PROTECTION	15,06	9,41	62
1.	Strengthen the forecast capacity on climate change impacts	0,5	0,5	100

2.	Prevent and contrast the effects of climate change on hydrological instability and land vulnerability	8,49	6,69	79
2.1	Measures for flood risk management and the reduction of hydrogeological risk	2,49	2,49	100
2.2	Measures for resilience, territory valorisation and energy efficiency in the Municipalities	6	4,2	70
3	Safeguard air quality and land biodiversity through protection of green areas, soil and marine areas	1,69	0,47	28
3.1	Protection and valorisaton of urban and extraurban green	0,33	0,13	40
3.2	Digitalisation of national parks	0,1	0,03	33
3.3	Renaturalisation Po' area	0,36	0,14	40
3.5	Restauration and protection of seasoils and marine habitats	0,4	0,16	40
4	Guarantee the sustainable management of water sources along the entire life cycle and the improvement of the environmental quality of internal and maritime waters	4,38	1,75	40
4.1	Investments in primary water infrastructures for the safety of water supply	2	0,8	40
4.2	Reduction of water losses in the water distribution network, included the digitalisation and the monitoring of the network	0,9	0,36	40
4.3	Investments in resilience agricultural irrigation system for a better management of water resources	0,88	0,35	40
4.4	Investments in sewage and depuration	0,6	0,24	40
M3	INFRASTRUCTURES FOR SUSTAINABLE MOBILITY	25,13	20,61	82
M3C1	INVESTMENTS IN RAILWAY	24,77	20,56	83
1.1	High speed railway connections towards the South for passengers and goods	4,64	4,64	100

1.2	High speed lines in the North to connect Europe	8,57	8,57	100
1.3	Diagonal connections	1,58	1,58	100
1.4	development of the European railways Transport Management System	2,97	1,19	40
1.5	Strengthening of metropolitan railways junctions and key national connections	2,97	2,97	100
1.6	Strengthening of regional lines	0,94	0,37	40
1.7	Upgrading, electrification and increased resilience of the Southern railways	2,4	0,96	40
1.8	Improvement of train stations in the South	0,7	0,28	40
M3C2	Intermodality and integrated logistic	0,36	0,04	12
M4	EDUCATION AND RESEARCH	30,88	7,57	25
M4C1	EDUCATION SERVICES	19,44	4,36	22
1.1	Kindergartens	4,6	1,84	40
1.7	Student housing	0,96	0,96	100
3	School buildings requalification and safety	7,6	1,56	21
M4C2	FROM RESEARCH TO BUSINESS	11,44	3,21	28
1.3	financing research of universities and research centres	1,61	1,61	100
1.4	R&D on Key Enabling Technologies	1,6	1,6	100
M5	INCLUSION AND COHESION	19,81	0,53	3
M5C2	Social infrastructures	11,17	0,28	3
3	Sport and social inclusion	0,7	0,28	40
M5C3	Territorial cohesion	1,98	0,25	13
4	Investments in the Special Economic Zones	0,63	0,25	40
	TOTAL	191.5	78.16	40.8

Source: Italian Government,
https://www.governo.it/sites/governo.it/files/PNRR_RiformeInvestimentiMissioni.pdf