GREEN RECOVERY TRACKER

GREEN RECOVERY TRACKER: Tracking the contribution of national covid-19 recovery efforts towards a climate neutral EU

SUMMARY REPORT

Helena Mölter, Wuppertal Institute
Johanna Lehne, E3G
Timon Wehnert, Wuppertal Institute
Jacqueline Klingen, Wuppertal Institute

E3G

Wuppertal Institut

GREEN RECOVERY TRACKER

Wuppertal Institut

E3G

PUBLISHER:

Wuppertal Institut für Klima, Umwelt, Energie gGmbH
Döppersberg 19
42103 Wuppertal, Germany
www.wupperinst.org

E3G - Third Generation Environmentalism gGmbH
Neue Promenade 6
10178 Berlin
www.e3g.org

AUTHORS:

Helena Mölter
Helena.moelter@wupperinst.org

Johanna Lehne
Johanna.lehne@e3g.org

Timon Wehnert
Timon.wehnert@wupperinst.org

Jacqueline Klingen
Jacqueline.klingen@wupperinst.org

This summary report was written in collaboration between the Wuppertal Institute and E3G as part of the Green Recovery Tracker project, funded by the European Climate Initiative.

The authors would like to thank all experts who supported this project with information, advice and feedback as well as all contributors to country studies and sectoral assessments:

Apine, Lilija; Batik, Simon; Bellisa, Francesca; Blázquez, Nuria; Bran, Antonia; Brizga, Janis; Catuti, Mihnea; Dethier, Sara; Dönsz-Kovács, Teodóra; Fabiszewska, Joanna; Fabry, Pavol; Fahrenkrog, Luisa; Fischer, Lisa; Flores, Luis; Gianelli, Elisa; Glasa, Marcel; Godet, Claire; Guertler, Pedro; Hainaut, Hadrien; Heilmann, Felix; Hudon, Marek; Ivanova, Vilislava; Joyce, Adrian; Jungwirth, Tomáš; Karaba, Jan; Karnikova, Anna; Kollar, Dan; Kondarev, Genady; Lázaro, Lara; Leinonen, Tatu; Leonardi, Matteo; Lilleväli, Uku; Marekova, Dana; Mass, Kevin; Maurício, Bárbara; Melichar, Juraj; Meyer, Sandrine; Miu, Luciana; Morales, Ana; Moro, Eleonora; Neier, Thomas; Nemecek, David; Patuleia, Artur; Pej, Zsófia; Popp, Rebekka; Postoiu, Constantin; Prantner, Magdolna; Primova, Radostina; Psatha, Afroditi; Rastocka, Liliana; Reitzenstein, Alexander; Ridzon, Jozef; Rochet, Adeline; Sainz de Murieta, Elisa; Sfakiotakis, Antonios; Sihvonen, Rasmus; Sillak, Silver; Simpson, Caroline; Skalik, Jan; Stagl, Sigrid; Svoboda, Jan; Sweatman, Peter; Szabova, Lucia; Tsitsoni, Victoria; Tynkkynen, Oras; Vangenechten, Domien; Vardakoulias, Olivier; Vinh Nguyen, Phuc; Vladimirov, Martin; Werland, Stefan; Wetmańska, Zofia; Zsuzsanna, Koritár; Zygmunt, Izabela.

PLEASE CITE THE PUBLICATION AS FOLLOWS:

Mölter, H., Lehne, J., Wehnert, T., Klingen, J., (2022). Summary Report of the Green Recovery Tracker: Tracking the contribution of national covid-19 recovery efforts towards a climate neutral EU. E3G & Wuppertal Institute, Berlin.

GREEN RECOVERY TRACKER

TABLE OF CONTENT

Wuppertal Institut

E3G

INTRODUCTION

The idea for the Green Recovery Tracker was born in spring 2020 when governments started making announcements on economic Corona recovery measures. From a climate and resilience perspective it is key that those recovery packages, investments and subsidies are in line with long-term climate and sustainability targets. Thus, recovery packages should not only boost the economy in the short-term, but also strike the path to a just transition towards climate neutrality.

Against this background, Wuppertal Institute and E3G have launched the Green Recovery Tracker project in late summer 2020 to shed light on the following questions: What can be considered an effective green recovery? What are good examples, which can be used as an inspiration for recovery programs aiming to support sustainable development? Where do the individual Member States stand with respect to aligning their recovery activities with the climate policy agenda?

We started developing our methodology in early fall 2020 – at a time when the EU Recovery and Resilience Facility (RRF) was just being set up. Thus, the project was building on and expanding the work of existing initiatives that were already tracking recovery packages. On our project-website (www.greenrecoverytracker.org), we created a knowledge base explicitly aimed at supporting civil society and other progressive organizations in their work on greening recovery efforts, a platform to feature relevant work and seek strategic partnerships. The focus of the Green Recovery Tracker was specifically on the EU and its Member States. The project is funded by the European Climate Foundation.

The great strength of the Tracker was that it provided orientation within an ongoing and extremely fast political process – in a few months decisions were taken on how to spend hundreds of billions of Euros. A few months later a more valid assessment, based on a rigid scientific methodology would not have been helpful to support the political decision making process anymore.

In this report, you will find OUR METHODOLOGY as well our POLICY BRIEFING highlighting our key takeaways of our country and sectoral analyses. It further includes a section on WHAT CAN WE LEARN FROM OUR EXPERIENCE WITH THE GREEN RECOVERY TRACKER?. The briefing concludes with a GUIDANCE FOR FUTURE FUNDING PROGRAMS AND ACHIEVING CLIMATE TARGETS OVERALL: Moreover, we would like to encourage our readers to have a look at our website which will take you on a journey to learn in-depth about our results and learnings.

The annex of this summary report is providing a **compilation of all our analyses generated** during the project period - from summer 2020 until end of 2021 and includes:

- ANNEX A - Country Analyses: 18 country analyses of final Recovery and Resilience plans.
- ANNEX B - Background note on potentially controversial cases for the assessment.
- ANNEX C - Key Findings (published 3 June 2021): A short briefing which summarizes three key insights from our analytical work on recovery measures and outlines recommendations based on those: Is the EU Recovery and Resilience Facility enabling a Green Recovery? Summary of findings from the Green Recovery Tracker.
- ANNEX D - Green Recovery Tracker Deep Dives: Four cross-country analyses focusing on the energy, building, industry, and mobility sector.
- ANNEX E - Taking stock at the end of 2021 (published 21 December 2021): Factsheet '*Where are we on Green Recovery at the end of 2021*'.
- ANNEX F - Lessons learned (published 19 January 2022): Report '*How to go about measuring alignment of funding with climate targets?*'.
- ANNEX G - Knowledge Hub: Excerpt from our Knowledge Hub.

Acknowledgement

Our concluding remarks are the most important: We would like to thank with our deepest gratitude to all contributing authors from our respective country and sectoral experts. They have invested a great commitment to understand, improve and then apply our methodology, shared their knowledge with us and often completed our analyses with a high level of detail – oftentimes in their spare time. The names of the respective authors are always indicated at the end of each (country) analysis.

We namely want to thank Alexander Reitzenstein, Felix Heilmann (both former E3G) and Timon Wehnert (Wuppertal Institute) for conceptualizing and designing this project and making it a great success.

Our deep gratitude also to the European Climate Foundation, which enabled us to build up the Green Recovery Tracker, being always a constructive reviewer and excellent advisor in all matters.

OUR METHODOLOGY

The Green Recovery Tracker - Assessing uncertain information

The Green Recovery Tracker has been a struggle with **uncertainty**, with preliminary and incomplete data. The idea for the Tracker was born in spring 2020 when governments started making announcements on economic Corona recovery measures. We started developing our methodology in early fall 2020 - at a time when the EU RRF was just being set up. So we were developing our methodology of assessing the climate impact of recovery measures in parallel to the EC developing the formal methodology of the RRF. Obviously, we had a close look at this process and tried to align our approach to the EU Taxonomy and official RRF methodology wherever this was possible and in our view made sense. But there are differences - partly because we came to different conclusions on what can be considered green i.e. be in line with the target of becoming climate neutral by mid century (e.g. concerning the use of natural gas) - partly we had to make decisions before the official methodologies were formally agreed upon.

The struggle with uncertainty continued when it came to assessing the national recovery plans. The Tracker was never meant to be an academic exercise - but a tool, which supports policy makers and civil society in comparing recovery plans across the EU, while they are in the making and still can be altered. So we engaged with national experts to assess draft recovery plans (often informal or leaked drafts) with a common methodology. Needless to say, our assessments were outdated as soon as a new draft appeared. And for many countries we had to make updates of our assessments.

Why do we spend a whole box on describing this process?

Because we think it is important to understand this process, to adequately value the learnings from the Green Recovery Tracker. The great strength of the Tracker was that it provided orientation within an ongoing, within an extremely fast political process - in a few months decisions were taken on how to spend hundreds of billions of Euros. A few months later a more valid assessment, based on a rigid scientific methodology would not have been helpful to support the political decision making process anymore. Especially between February and May 2021 the Green Recovery Tracker was shedding light into a process, which many considered a black or at most dimly lit box. For us as a team it was amazing to see who took note of our assessment, who called for more detailed information, how it stimulated discussions across institutions in various member states - who had a hard time assessing the recovery plans in their own country, but now could draw comparisons to good and bad practice in other EU member states.

Now, in 2022 the speed of development has eased off. Now it is time to look at the learnings and identify those which could be helpful for the long-term process. Because aligning public funding and investments with climate objectives will be a challenge for years, even for decades to come.

GREEN RECOVERY TRACKER

METHODOLOGICAL FRAMEWORK

The Green Recovery Tracker platform provided concise information on national recovery measures in EU member states and assessed their contribution to the green transition. It offered evidence-based information to policy- and decision-makers in European and national institutions as well as in other organizations.

We assessed the effects of individual measures contained in national recovery plans and packages on the transition to a climate neutral economy. The key indicator for our assessments is the effect of any given measure on climate mitigation, i.e. emissions reductions, in the context of the transition to climate neutrality. In doing so, our independent assessment methodology built on the EU taxonomy[1] as well as, with regards to climate mitigation, on the climate tracking methodology outlined in Annex VI of the RRF Regulation.[2]

As shown in the table below, our assessment framework ranges from “very positive” to “very negative”, with different shades of green and categories for measures that cannot be directly assessed. Measures that are fully supportive of the green transition achieve the best assessment, and measures that are strong obstacles to this transition receive the worst score.

To mirror the approach used by the European Commission in the assessment of national recovery plans, “very positive” measures were fully counted towards the green spending share, while “positive” measures are weighted using a coefficient of 40%.[3] We then combined the relevant coefficient for each measure with the associated costs, summing them up to derive an overall green spending share.

Our overall approach was comparable with that used in the formal RRF process, even though our individual assessments differ in some cases. We explain our reasoning for some of these cases in the box further below, and all our assessments can also be accessed via the respective country pages. Following this link[4], you can access the European Commission's official assessments of national Recovery and Resilience plans.

Our quantitative analysis only covered measures announced within longer-term economic recovery packages from the Covid-19 crisis. These are of particular importance to the green transition. Short-term liquidity and stabilization measures that are part of countries' immediate crisis responses are mentioned in individual country profiles but are outside the scope of our quantitative assessment.

[1] See e.g. EU Technical Expert Group on Sustainable Finance (2020). Taxonomy Report: Technical Annex

[2] See European Parliament (2021).

[3] European Commission (2021). Guidance to Member States: Recovery and Resilience Plans

[4] European Commission (2021). National recovery and resilience plans. Website.

GREEN RECOVERY TRACKER

About our data

Deviations between our numbers and official assessments by the European Commission can be explained by methodological differences, including the fact that our methodology only considered climate mitigation and not adaptation effects.

Moreover, we counted 26% of all measures as having a likely climate effect but not assessable due to uncertainties, which were oftentimes assessed positively by the EU Commission. is allocated to measures that will likely have a climate effect that cannot yet be assessed. This includes measures that combine positive (e.g. energy efficiency) investments with harmful (e.g. fossil gas boilers) investments; or measures that appear positive but when considered in the local context could end up being harmful, such as investments into "hydrogen" infrastructure in regions where it is unlikely that the infrastructure will be utilized for anything except fossil gas in the foreseeable future.

The official Climate Tracking Methodology outlined in Annex VI of the RRF Regulation is the necessary construct for a uniform assessment of measures across all countries. And yet it leaves loopholes and uncertainties in the precise evaluation of individual measures. These uncertainties include designations of climate spending not clearly in line with the official Climate Tracking Methodology (e.g. generalized investment support without clear climate conditionalities in various RRPs, energy efficiency investments without assurances on the achievement of the required improved energy standards), measures being designated as green even though their climate contribution is at the very least doubtful (e.g. investments into new-built housing in Portugal), and measures that are assessed positively by governments despite them including harmful measures (e.g. energy efficiency investments including support for fossil gas boilers in Italy, Poland and Czechia). Only the implementation phase will show how green certain measures will be implemented.

In addition, we were collecting qualitative data on political narratives, governance, monitoring and enforcement mechanisms as well as major state aid decisions throughout the crisis and recovery phase. All quantitative and qualitative analyses were compiled in respective country reports.

In specific cases, the level of detail did not allow for an assessment based on the RRF climate tracking methodology. In others, the assessment was politically controversial. These cases and our assessments for them are explained in more detail in ANNEX B - Background note on potentially controversial cases.

Moreover, due to our focus on greenhouse gas emissions, certain measures that did not contribute to mitigating greenhouse gases, but to other socially or environmentally favorable impacts, may not receive a positive rating. This might include measures to protect and enhance biodiversity, or climate change adaptation measures, as long as they do not have a direct impact on greenhouse gas mitigation.

GREEN RECOVERY TRACKER

Table 1 Green Recovery Tracker assessment framework overview

Assessment	Definition	Examples
Very positive 100%	Measures that make a significant, transformative contribution to climate change mitigation	Renewables, efficiency measures with strong standards, green hydrogen, e-mobility without support for combustion engines, ...
Assessment Positive 40%	Measures that make a positive contribution to transition and mitigation efforts	Mixed funding for carbon-intensive industries with weak green conditionalities, support for climate mitigation measures with weak conditionalities or standards, Just Transition funding, ...
Likely no significant climate effect		Most healthcare and social support measures, ...
Likely climate effect but direction not assessable		Measures combining positive and potentially harmful elements (e.g. support for efficiency measures alongside investments into new gas infrastructure), measures that could have a positiveor negative impact depending on their design(e.g. some digitalization measures, general investment support for local governments), ...
Negative	Measures that stabilize the fossil-based economy	Generalized tax cuts (e.g. VAT), hybrid cars, ...
Very negative	Measures that directly support fossil industries which block the green transition	Unconditional funding for carbon intensive industries, support for fossil fuels, ...

POLICY BRIEFING

Two urgent and all-encompassing political challenges unfolded simultaneously in 2020 and 2021: the need to respond to and recover from the COVID-19 crisis, and the need to realize the European Green Deal. Politicians and policy experts alike quickly agreed that an effective allocation of economic recovery spending would require the pursuit of a “green recovery”: addressing the economic crisis as well as the climate and biodiversity crises.

In Europe, national governments and the European Union were deploying large recovery packages to bring their economies back on track. This included a ground-breaking €750bn recovery package for the entire EU (“Next Generation EU”), with the €672.5bn Recovery and Resilience Facility (RRF) as its central element. The RRF was set up to enable recovery measures in all EU member states, based on Recovery and Resilience Plans (RRPs) prepared by national governments. European leaders agreed that the EU’s recovery must be aligned with the green and digital transition. Thus, the RRF regulation demanded that at least 37% of the spending in National Recovery Plans support the green transition, with the remainder of the funding doing no harm to the transition. The 37% target led to intense negotiations and discussions between EU member states and the Task Force created by the European Commission. The process of drafting and revising RRPs in coordination with the European Commission did significantly improve the quantity and quality of climate-spending in a number of member state plans.

The Green Recovery Tracker assessed the effects of individual measures contained in national recovery plans and packages on the transition to a climate neutral economy taking into account the contribution of activities to climate change mitigation efforts. In doing so, our independent assessment methodology built on the EU taxonomy as well as, with regards to climate mitigation, on the climate tracking methodology outlined in Annex VI of the RRF Regulation.

KEY TAKEAWAYS FOR RECOVERY SPENDING

The economic Covid recovery efforts of the EU member states are unprecedented both with respect to total budget and climate ambition: the €672.5bn budget of the Recovery and Resilience Facility (RRF) with a 37% share of green recovery has become a major investment component of the EU's Green Deal. The whole process of recovery plan development and approval by the European Commission has intensified the debate in all member states of how to "build back better" and use recovery funds to strategically support the transition to a zero-carbon economy.

However, given the massive challenges and time pressure imposed by the necessity to become climate neutral by 2050, it becomes obvious that in the EU Recovery funds the full potential to explore synergies with climate mitigation has not been achieved. Although, at this point most national recovery plans are finalised and have been approved by the European Commission, there are lessons learned, which need to be considered in the upcoming climate mitigation related negotiations in the EU:

- **Most recovery plans are not aligned with the EU’s new 2030 climate target** and are not used to accelerate the climate transition in line with the new target. Many of our national expert partners have criticized that the assessed RRPs are lacking a strategic vision, especially with regards to using recovery funds to advance the green transition. For instance, most RRPs only have weak links to existing climate policy frameworks and are based on energy and climate plans (NECPs) which are

now no longer aligned with the EU's new 2030 climate target. EU recovery funding would have been an opportunity to increase ambition in line with this target that most governments have not made use of. But instead of using the development of recovery plans as an opportunity to accelerate the implementation of decarbonization measures alongside a strategic pathway, most governments have followed a closed bottom-up approach of assembling lists of possible investment projects. The EU's new climate target for 2030, and the ensuing need to revise national energy and climate plans upwards, provides an important and pressing argument for also increasing the amount and quality of green investment measures included in RRPs, in line with overall decarbonization strategies.

- **A large share of the recovery budget may have a substantial climate impact, but still, it is unclear whether this is in a positive or negative direction**. It will be key to tune those programs to be in line with the 2030 and long-term climate targets of the EU: This means, on the one hand, that the implementation phase that now follows, the measures must be closely monitored in order to strengthen the climate and, at the same time, to constantly implement the do-no-significant-harm principle. On the other hand, it is also essential to critically assess the plans that have not been endorsed yet in order to prevent measures that carry the risk of promoting infrastructure for fossil gas.
- Our analysis showed that **most final recovery plans are set to miss the 37% climate spending target** (Figure 1)

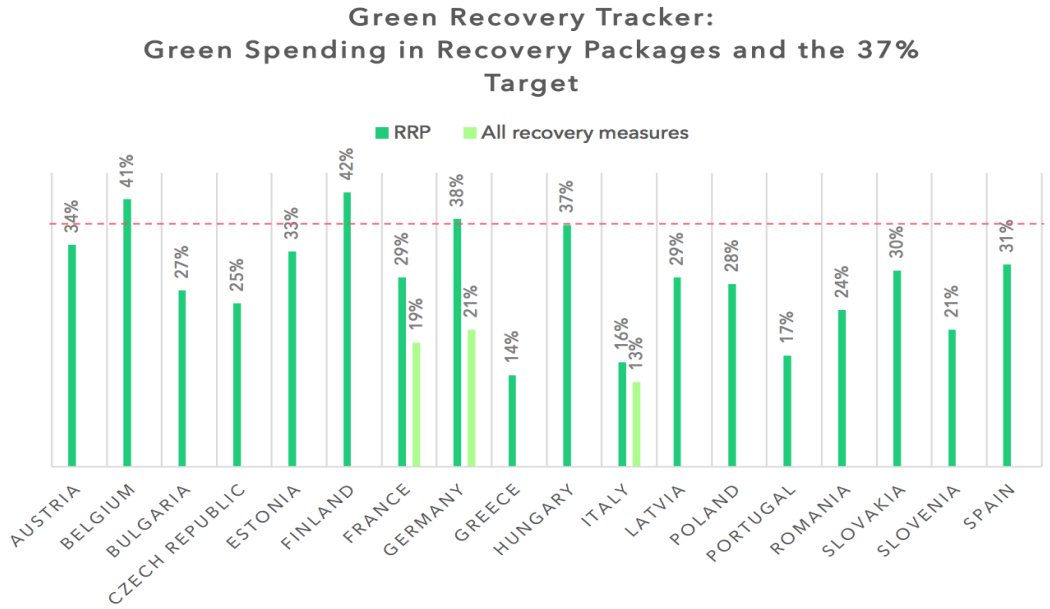


Figure 1 Green Recovery Tracker: Green Spending in Recovery Packages and the 37% Target

The following sections reflect on our key takeaways along the sectors energy, building, industry and mobility.

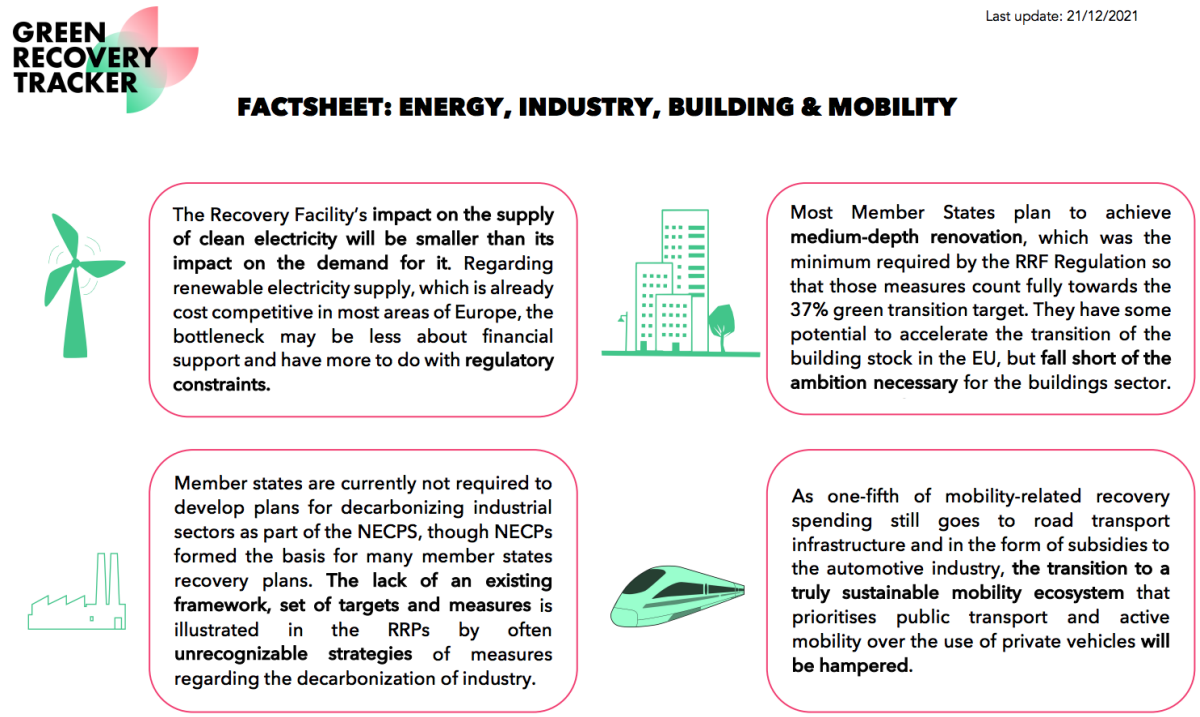


Figure 2 Factsheet: Energy, Industry, Building and Mobility

Key Takeaways for the Energy Sector

The energy sector is the one with the highest share of climate positive and very positive measures in recovery plans. There is a strong support for renewables in the plans of many countries, which now would need to be backed with a reduction of regulatory constraints for higher renewable installation rates. Such steps would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans.

Based on our assessment of recovery spending for the energy sector, it looks very likely that EU recovery funds will create a demand pull for renewable electricity. Numerous measures are being introduced that are set to accelerate the rollout of electric end-use technologies such as heat pumps and electric vehicles. This has the potential to make a positive contribution to the green transition due to the ability of these devices to efficiently use clean electricity. However, the plans alone are not doing enough to fully secure these benefits, as investments in clean electricity infrastructure, both for generation and grids, are limited. Electricity grids, also need an urgent scale up of investments and the lack of focus on this in most recovery plans can be considered a missed opportunity. Furthermore, all these measures should be implemented alongside coherent and effective support schemes for a more efficient use of energy.

In summary, this could mean that the Recovery Facility's impact on the supply of clean electricity will be smaller than its impact on the demand for it. Consequently, it will be important to increase efforts in energy efficiency and thus limiting the expected growth of electricity demand. Regarding renewable electricity supply, which is already cost competitive in most areas of Europe, the bottleneck may be less about financial support and have more to do with regulatory constraints.

Legislative steps to unlock the potential of renewable energy generation are therefore urgently needed, also because they are a prerequisite for other green recovery measures to be able to make a positive impact. Such steps would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans.

Key Takeaways for the Building Sector

The analysis of the recovery plans demonstrate significant renovation activity is planned for the building sector but to deliver transformational change, further steps are needed. This includes ensuring that funding delivers a step change towards realising deep (or staged deep) renovations, going well beyond the 30% minimum energy saving recommendation set by the European Commission and investing in the right enabling framework to create sustainable renovation markets including skills, certification, awareness raising and support for citizens through one stop shops and other support models and attracting private finance.

The deep dive assessment of the building energy renovation components of the plans conducted with the Renovate Europe National Partners demonstrates significant interest in investing in building renovation, which can contribute to a strong outcome for the Fitfor-55 legislative proposals, all of which would enter into force while NRRP funding is being invested. New legislative proposals affecting buildings and renovation have already been tabled: these include a revision of the Energy Efficiency Directive (EED), Renewable Energy Directive (RED) and a new Emissions Trading Scheme for heating and transport fuels, and most recently the revised Energy Performance of Buildings Directive (EPBD).

Done right, NRRP investment can ease agreement on, and the implementation of, a more ambitious legislative package for buildings – a virtuous cycle between ambition and deliverability that can drive the creation, investment in, and sustained growth of renovation markets across the EU. To unlock this, it will be critical to establish a positive feedback loop between EU institutions (in supporting effective deployment of NRRP funds) and Member States (in backing a strong legislative outcome from Fit-for-55 negotiations) that delivers a significantly improved building stock for citizens.

Key Takeaways for the Industry Sector

Industry is the sector in which alignment of recovery measures with climate mitigation was the weakest. We consider not even 20% of the recovery budget to support climate objectives. A large funding share went broadly into supporting industry at large without any incentives towards the necessary transformation. One core problem regarding the industrial sectors is that member states are currently not required to develop plans for decarbonizing industrial sectors as part of the National Energy and Climate Plans (NECPs) planning and reporting framework, under the Energy Union Governance Regulation. NECPs formed the basis for many member states recovery plans. Without an existing framework, set of targets and measures for industrial decarbonization, member states will have found it more challenging to quickly pull together concrete and comprehensive investment plans for industrial sectors.

On the cusp of a decade in which a major wave of reinvestment in EU industrial assets is due, this was a missed opportunity. There are two main ways to rectify this going forward:

- Many of the milestones for member state recovery plans have already been set. However, where there is still space for revisions with plans still being drawn up, the European Commission should encourage member states to ensure a strong focus on industrial decarbonization.

- Ensuring comprehensive legislation on industrial decarbonization and funding for investments in the transition at EU level
- The European Commission has already made substantial progress on the second of these two levers. The Fit-for-55 package, released in July 2021, included a range of measures specifically aimed at accelerating industry decarbonization: additional support for early-stage commercialization of innovative production processes via a stronger Innovation Fund and the provision of Carbon Contracts for Difference (CCFDs), a more robust anti-carbon leakage system in the form of the proposed Carbon Border Adjustment Mechanism (CBAMs) and targets to ensure green hydrogen uptake and prioritization for industry sectors.

As these proposals make their way through the legislative process over the course of 2022, it will be critical to ensure they are strengthened in such a way that they create strong enough incentives for industrial companies to shift to cleaner production processes. Ensuring sufficient and targeted investment at EU and member state level in industrial decarbonization is a key issue for the just transition and for Europe's economic cohesion. By doing so in a way that benefits all regions, EU recovery funding and an EU clean industry package can reduce the risk of fragmented national policies and start to bridge inequalities in the shift to a climate neutral economy.

Against this background it will be necessary that Member States revise plans in order to support industrial decarbonisation. Furthermore, it will be key to ensure comprehensive legislation on industrial decarbonization and funding for investments in the transition at EU level. Additional support for early-stage commercialization of innovative production processes via a stronger Innovation Fund and the provision of Carbon Contracts for Difference (CCFDs), a more robust anti-carbon leakage system will be critical to ensure that strong incentives for industrial companies to shift to cleaner production processes are being created.

Key Takeaways for the Mobility Sector

Recovery measures in the mobility sector are torn between high shares of positive and very positive measure on the one hand and still a number of negative and very negative measures on the other hand. While investments in rail and bicycle infrastructure clearly aim at transforming the mobility sector, the measures relating to road transport clearly lack ambition. A faster shift towards zero carbon mobility needs to be addressed by combining the shift to electric mobility with stronger support for non-road-based mobility and limiting the additional electricity demand, which this shift to e-mobility will imply.

A strong contribution of the transport and mobility sector is crucial to achieving the European 55% target by 2030. With its 'Sustainable and Smart Mobility Strategy', the European Commission is setting concrete milestones to ensure a smart, sustainable, and resilient return from the COVID 19 crisis. For example, the installation of 3 million public charging stations by 2030 is intended to promote the spread of zero-emission cars on European roads. Doubling high-speed rail and expanding cycling infrastructure over the next decade will also make mobility between and within cities and towns healthier and more sustainable.

Given the ambitious target set by the European Union, the overall spending is unlikely to be sufficient, especially in view of the urgent need to cut emissions, improve air quality and health conditions in urban areas.

GREEN RECOVERY TRACKER

WHAT CAN WE LEARN FROM OUR EXPERIENCE WITH THE GREEN RECOVERY TRACKER?

An **independent, scientific evaluation of RRPs** (in parallel to the evaluation process of the EC) was good and necessary to create transparency and to give civil society the possibility to critically accompany the design process of the plans. **National recovery plans were largely developed behind closed doors**, with little room for independent scrutiny and public participation. We see this as an explanation for why we received numerous inquiries and positive feedback on our analyses - from NGOs, trade unions, think tanks or institutes from the respective member states. For example, we were requested for workshops (e.g. Austria, Italy, Bulgaria) to discuss the respective RRPs with national stakeholders and share with them our findings from the country analyses. Our assessments, especially of draft RRPs, were a valuable resource to enable comparison between countries and support learning between countries.

Moreover, we **experienced a need to exchange on different methodologies as well as on the communication of scientific assessments** as in the course of the pandemic, several recovery trackers popped up. Though the various trackers differ in methodology, the scope of countries and/ or the dimension of investigation, there was a significant overlap in results. An exchange across several tracker initiatives was initiated by the International Institute for Sustainable Development (IISD). This group of tracker initiatives, which brought together more than 30 of the world's leading research institutions, developed a call[5] to heads of state and government worldwide to use Covid-19 funding for nature and climate-friendly investments. In addition, the World Bank Group initiated a dedicated Working Group on Green Recovery with the participation of the Green Recovery Tracker in order to commonly develop a Theory of Change for green recovery.

WHAT NEEDS TO HAPPEN NEXT?

While the official Recovery and Resilience Scoreboard[6] displays EU countries' progress in implementing their recovery and resilience plans and shows common indicators to report on progress and evaluate the Recovery and Resilience Facility and the national plans, we see the need to independently monitor the implementation of RRPs on national level in order to strengthen the climate component and, at the same time, to constantly implement the do-no-significant-harm principle. The Green Recovery Tracker counts 26% (€ 183bn) of all measures as having a likely climate effect but not assessable due to uncertainties, which are oftentimes assessed positively by the EU Commission. These measures have to be especially taken into account and monitored when put into practice.

We have observed that many recovery plans contain measures that have a positive effect on climate protection. However, most of the plans do not reveal a vision or holistic strategy in order to achieve climate-neutrality. Moreover, they are not linked to National Energy and Climate Plans (NECPs) - planning and reporting framework, under the Energy Union Governance Regulation- or only linked to outdated plans. Thus, the European Commission needs to ensure comprehensive legislation and funding for investments in the transition to climate neutrality at EU level in order to avoid lock-in effects of investments. As part of this, all member states need to revise and update their NECPs.

[5] Our lessons learned on what can be learned from the political process of setting up the RRF can be found here: https://www.e3g.org/news/investing-in-the-next-generation-lessons-from-the-eu-recovery-and-resilience-facility/

[6] IISD is co-leading the Energy Policy Tracker

GREEN RECOVERY TRACKER

As the discussions around the EU Taxonomy on sustainable finance just show, the political debate is still not over what counts as sustainable (and if so, to determine the exact climate contribution of a measure) and what does not. A key challenge here is that questions around sustainability get mixed up with other rationales (such as e.g. security of energy supply). No matter how the decisions around the taxonomy end up, we see the need for an independent tracking platform which is assessing public and private funding for investments across several dimensions - one possibility would be to align these with the targets defined in the EU taxonomy: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to a circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems.

GUIDANCE FOR FUTURE FUNDING PROGRAMS AND ACHIEVING CLIMATE TARGETS OVERALL

We developed this guidance based on our lessons learned. It aims to help identify what is important a) for a Green Recovery but also b) in general for economic stimulus programs that address climate change. Some of the points listed were also planned by the EU in the RRF and show what good practice could look like, though some of them were then only poorly applied.

- Definition of a **target** (e.g. share of spending in programs/ plans to climate measures) that is sufficient to meet the defined mid- to long-term climate targets.
- Providing a dedicated **climate tracking methodology**.
- If not implemented yet, a **comprehensive national decarbonization strategy** must be developed which is envisaging the most strategic investments to guide the drafting process of stimulus programs/ recovery plans.
- Economic stimulus programs must be aligned with current and up-to-date climate protection plans (such as NECPs) in order to reach set targets of emissions reductions

- Allow and actively support **public participation** in the development of decarbonization strategies, as well as in the development of specific projects and measures: there is rich expertise available among national civil society organizations and of citizens in decisions that will be key to their future wellbeing
- **Review and close monitoring** of measures with defined milestones as they are implemented.

By their very nature, recovery programs usually need to be set up and implemented in the very short term, whereas funding programs in general have a rather long horizon for planning. The dilemma of time played a major role to initialize the Recovery and Resilience Facility: on the one hand, the money should be disbursed to the EU member states as quickly as possible, on the other hand, the recovery plans should be coherent with the defined targets and the regulatory framework. In order for recovery programs to be effective in terms of climate protection, we advocate that defined decarbonization strategies and assessment methodologies are available and continuously updated so that they can be applied to any recovery programs if needed.

GREEN RECOVERY TRACKER

This briefing was written by Timon Wehnert, Helena Mölter, Jacqueline Klingen (all Wuppertal Institute) and Johanna Lehne (E3G). We are grateful to the meaningful work by Felix Heilmann and Alexander Reitzenstein (both former E3G) as well as Stefan Werland (Wuppertal Institute) and Magdolna Prantner (former Wuppertal Institute).

Wuppertal Institut

E3G

GREEN RECOVERY TRACKER

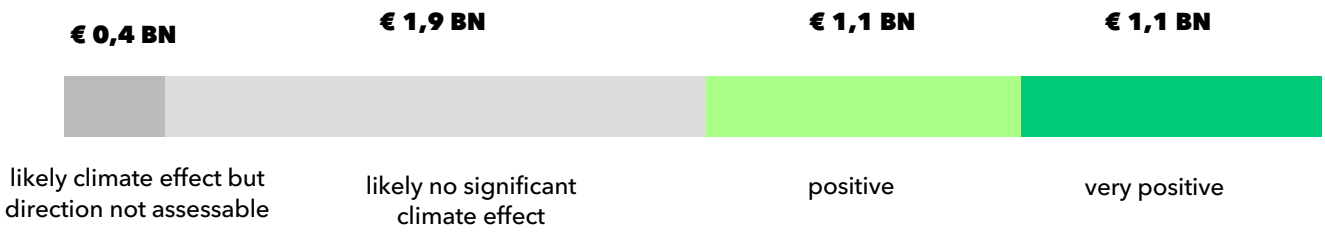
ANNEX A - COUNTRY ANALYSES

1. GREEN RECOVERY TRACKER REPORT: AUSTRIA
2. GREEN RECOVERY TRACKER REPORT: BELGIUM
3. GREEN RECOVERY TRACKER REPORT: BULGARIA
4. GREEN RECOVERY TRACKER REPORT: CZECH REPUBLIC
5. GREEN RECOVERY TRACKER REPORT: ESTONIA
6. GREEN RECOVERY TRACKER REPORT: FINLAND
7. GREEN RECOVERY TRACKER REPORT: FRANCE
8. GREEN RECOVERY TRACKER REPORT: GERMANY
9. GREEN RECOVERY TRACKER REPORT: GREECE
10. GREEN RECOVERY TRACKER REPORT: HUNGARY
11. GREEN RECOVERY TRACKER REPORT: ITALY
12. GREEN RECOVERY TRACKER REPORT: LATVIA
13. GREEN RECOVERY TRACKER ANALYSIS: POLAND
14. GREEN RECOVERY TRACKER REPORT: PORTUGAL
15. GREEN RECOVERY TRACKER REPORT: ROMANIA
16. GREEN RECOVERY TRACKER REPORT: SLOVAKIA
17. GREEN RECOVERY TRACKER ANALYSIS: SLOVENIA
18. GREEN RECOVERY TRACKER REPORT: SPAIN

GREEN RECOVERY TRACKER REPORT: AUSTRIA

At the end of April 2021, the Austrian government submitted its official Recovery and Resilience Plan (RRP) for the use of funds from the EU Recovery and Resilience Facility (RRF). With an overall volume of € 4.5bn, equaling 1.2% of Austrian's GDP (2020), the Austrian government aims to strengthen its domestic recovery package (NRP). Large parts of the RRP were already presented in last year's governmental program (2020-2024)[1], coinciding with the official RRP time frame. It is noteworthy, that social partners and civil society organizations heavily criticized the lack of consultancy and transparency in the development process of the RRP[2]. Overall, Austria's recovery measures make a 34% contribution to the green transition, as our analysis identifies the following spending shares:

Figure 1: Amounts committed by assessment category (all recovery measures)



In focus: Green Spending Share

We find that Austria's draft recovery plan (RRP) achieves a green spending share of 34%, below the EU's 37% benchmark. No measures have a negative impact. But we find that 8% (€0.36bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the continued planning, review, and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to the green transition (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

The RRF package is divided into four components: green recovery, digital recovery, knowledge-based recovery and fair recovery. Mostly the measures under the green recovery component can be evaluated as having positive climate effects. Some green measures are investments into replacing traditional oil or gas-fired heating systems, the expansion and greening of the public transport system, increased quota for reusable beverage containers as well as investments into pilot projects for hydrogen- or electric-powered industrial processes. Austria's RRP thus covers important parts of a green transition; however, it lacks creativity and additionality as specifically asked for by the European Commission. Additionally, the plan sets no specific targets or conditionalities with respect to reductions in CO2 emissions.

OUR HIGHLIGHTS

Good Practice

Public Transport

Austria's recovery package has a strong focus on environmentally friendly public transport systems. Investments into zero-emission buses and the expansion of the railway system is accompanied by the 1-2-3 climate ticket offering nationwide affordable public transportation.

Bad Practice

Lack of additional ambition

In light of its preceding big announcements of exceeding the 37% threshold of green measures, it is sobering that many of those lack the much-needed comprehensiveness and creativity necessary to achieve the national target of climate neutrality by 2040.

To Our Surprise

Integration of national plans

Measures of Austria's RRP are strongly linked to the National Energy and Climate Plan (*NECP*) as well as the national mobility plan (*Mobilitätsmasterplan 2030*). Although this might stem from the fact that many measures were already in those plans, its interlinkage might enable effective alignment with national climate targets.

GENERAL CONTEXT

In January 2020, Austria formed the first European coalition of a center-right party (Austrian People's Party, ÖVP) with a center-left "green" party (The Greens). Starting with a promising governmental program, this alliance is promoting big steps towards an ecological transition. This includes introducing a nationwide public transport ticket (1-2-3 ticket), setting a climate neutrality target to 2040 (instead EU 2050), and reaching 100% renewable energy use by 2030[3]. The Covid-19 crisis and resistance by the ÖVP, however, have led to little actual implementation of these measures yet.

The global health crisis has placed economic competition back at center stage and climate actions have mostly been put on pause. A point in case being the bail-out of Austrian Airlines (AUA) via €150 million as well as a loan of €300 million, without any governmental stake in the airline (as in the case of Germany), nor any specific conditionalities.
Furthermore, previous public pressure on the government, due to large-scale protests of "Fridays for Future" strikes, was weakened by a curfew and strong lock-down measures.

While other governments already publicly discussed the draft of their national Recovery and Resilience Plan, covering measures financed by the EU Recovery and Resilience Facility, the Austrian government was criticized by the opposition and civil society organizations for drafting the plan behind closed doors[4]. Although an e-mail address was instated for the consultation process (ending on February 26th) the lack of transparency in the choice of measures left much to be desired.
The report was only made publicly available after its submission to the European Commission on April 30st. A previously leaked version by an independent think tank contained much more ambitious, although utopian, targets[5]. The final version lacks any specific targets in reductions of CO2 emissions.
The urgently needed debate on climate related policies, targets and the ambitions of the RRP, have been, however, overshadowed due to multiple inner-party affairs of the main governmental party (ÖVP).
The Austrian RRP estimates a budget of €4.5bn, which surpasses the suggested budget of €3.46bn by the European Commission by around €1,04bn. As the actual amount will only be fixed by June 2022 the Austrian government aimed to exhaust all possibilities.

Context indicators[6,7]	Austria	EU average
GDP (2019)	**397.5bn €**	
GDP (per capita, 2019)	**44780 €**	**31130 €**
GDP (per capita, 2020, provisional)	**42110 €**	
Debt (% of GDP, 2019Q4)	**70.5 %**	**77.6 %**
Debt (% of GDP, 2020Q4, provisional)	**83.9%**	**89.8%**
Unemployment Rate (December 2019)	**4.3 %**	**6.5 %**
Unemployment Rate (August 2020)	**5.6 %**	**7.7 %**
Unemployment Rate (December 2020)	**5.8%**	**7.5%**
Real GDP for 2020	**- 6.6 %**	**- 8.3 %**
Real GDP forecast for 2021	**+ 3.4 %**	**+ 5.8 %**
Total recovery spending[8]	**49.6bn €**	
EU recovery funding (grants only, current prices)[9]	**3.5bn €**	

KEY FOCUS AREAS OF THE AUSTRIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

The government's announced priorities for the RRP are to strengthen Austria as an attractive and competitive business location, as well as to reform and invest in the spirit of the European Green New Deal. The additional funding should strengthen the national recovery package and address economic, ecological, and social weaknesses within Austria[10].

So far, there has been hardly any political debate on the recovery package. This stems from the fact that the political discussion is currently distracted by governmental internal affairs and thus has been commented by the opposition parties on just a few occasions. The most prominent critique was the lack of additionality. The biggest opposition party (SPÖ) points out that mostly old projects were reused (96%) and therefore, no additional boost by the RRP can be

expected[11]. The second major critique refers to the lack of transparency when drafting the report. This was also the loudest criticism from the public sphere, as for example by major civil society organizations and some social partners.
Besides the lack of detail on the socio-ecological tax reform, no major criticism regarding specific investments and reforms within the RRP was expressed.

The RRP, with a planned budget of €4,5 million, will only present a part of the national recovery "comeback" plan. What this national plan contains, however, is not clear yet. The funds stemming from the EU will be used with a focus on climate action and digitalization. The biggest parts will fall under the category of "environmentally friendly mobility" with €849 million and "broadband expansion" with €891 million. Ambitious reforms, subsumed in the last part of the package, aim to establish an appropriate framework for a successful and green recovery. As these are not very concrete yet, their implementability and credibility remains to be seen.

FINANCING AND ADDITIONALITY OF AUSTRIA'S RECOVERY PACKAGE

The Austrian government extended its national debt to finance recovery measures in 2020 to €315.6bn. All in all, around €49.6bn were spent in 2020 and 2021 on crisis response measures as well as an additional €11.6bn in order to boost the economy[12]. The national debt is expected to increase to €339.7bn in 2021[13]. The funds from the Recovery and Resilience Facility will be used to strengthen the domestic recovery package as well as to implement the governmental program (2020-2024). The Austrian government plans to receive €4.5bn in funding via the RRF and does currently not plan to apply for any additional loans.

As the current governmental period coincides with the time horizon of the RRF, the Austrian Recovery and Resilience Plan is mostly in line with already-planned measures. While the governmental parties stress that around two thirds of the plan are new investments, opposition and civil society organizations point out that only 4% are actually new measures[14]. It can be concluded, then, that although Austria is missing out an opportunity to give the green transition an additional boost, at least some steps in the right direction are being taken to implement the ambitious governmental program.

GOVERNANCE OF THE RECOVERY PACKAGE

Some green measures of the recovery package are linked to the targets defined in Austria's National Energy and Climate Plan. Monitoring of progress will be conducted by the implementing ministries. A specific climate-related governance of the recovery efforts seems not to have been implemented. However, it must be noted that positive developments are held in prospect. Currently in discussion is an ambitious climate protection law which sets a carbon budget per sector. Beyond that, the new legislation proposes a science-based Climate Council which should keep an eye on the emission reduction targets and propose immediate measures if targets are not met. Furthermore, within 2021 a Citizen Climate Council should be implemented which would enable citizen participation. Finally, the proposed legislation contains a Climate Check which legally consolidates that every new law and regulation, as well as funding and investment regulations must be screened on climate sustainability.
As these reforms, however, are not implemented yet, it remains to be seen how the measures of the recovery package will be monitored.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The Austrian government has already made emergency measures summing up to €49.6bn available[15]. This includes among others a short-time work scheme, emergency aid for companies, fixed cost subsidies, guarantees and liabilities for business loans, as well as reductions and deferrals of claims for taxes. This rescue package aims to safeguard jobs and to strengthen Austria's economic position. Support was not linked to any sustainability conditions.
A major bail-out decision with climate impact was the €150 million aid package for the Austrian Airlines (AUA, part of the Lufthansa Group). While in other countries bail-outs of airlines were linked to sustainable conditionalities, Austria's package was rather seen as an ecological crash landing. Although the airline is not allowed to offer short-haul flights reachable via train within less than three hours, this affects just one route (Vienna - Salzburg) and does not concern other airlines (like the parent company Lufthansa). Another critique was that while Germany negotiated a 20% governmental stake for its bail-out, nothing of this kind was achieved in

Austria. Contrasting the climate goals, the requirement of the bail-out was an extension of its flight capacities.
The majority of other subsidies to companies were mostly lacking transparency. In order to fulfill transparency requirements of the EU, the Austrian government, however, recently started publishing government support measures on the EU Commission's webpage[16].

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- The promotion of the exchange of oil and gas heating systems (€158.9 million) and fighting energy poverty by thermal refurbishment of buildings of low-income households (€50 million), can be seen as a positive step towards advancing the green transition. Furthermore, by supporting thermal refurbishment of buildings and businesses in local villages, greening facades, and recycling of brownfield land (€50 million), these positive measures will reduce land use and support local resilience.
- Multiple measures to support the public transport sector, including investments into zero-emission buses and infrastructure (€ 256 million), the construction of railway lines (€ 543 million), and the implementation of a national 1-2-3 public transport ticket can be assessed as very positive. These measures help accelerate the transition of the transport sector.
- The support for the repair of electrical and electronic equipment via a repair bonus for citizens (€130 million) aims at expanding the lifespan of electrical and electronic equipment. This measure decreases the demand for electronic equipment, decreasing thus material throughput and emissions. It additionally might raise public awareness of sustainable consumption.
- To achieve 100% renewable energy by 2030, measures were proposed to invest in pilot projects to prepare the industry towards climate neutrality (€100 million), as well as investments into hydrogen projects (€125 million) to support the transition in sectors that are particularly difficult to decarbonize. These measures can be assessed as positive, as long as the strategy keeps its commitment to green hydrogen.

- A rather small but socially important measure is the Climate Change Investment Fund for cultural enterprises (Klimafitte Kulturbetriebe) (€15 million). We assess this investment as positive as it supports investments into energy saving measures and the use of renewable energy sources, and simultaneously raises public awareness.

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Measures to advance the digital transition, like the digitalization of schools by providing digital equipment for students (€172 million), expanding broadband availability (€891 million), digitalization of public administration and services (€160 million), as well as the promotion of quantum technology (€107 million).
- Educational measures include: strengthening elementary education institution (€28 million), addressing accumulated learning gaps caused due to lockdowns (€101 million), and enabling reskilling and upskilling on the labor market (€277 million).
- Health measures include promoting primary care projects (€100 million), as well as investments in the implementation of community nursing (€54 million).

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

While in January 2020 the implementation of the "climate-ministry" offered promising prospects, the Covid-19 pandemic has put most climate policy decisions on pause for the rest of the year. In 2021, however, the discussion of the climate-referendum in the National Council has brought the topic back on the agenda. Significant cornerstones for the new climate protection law were set, as well as the implementation of several climate committees. Those include representatives to the national government, the federal states, as well as citizens and scientific advisors. The recently presented draft of the climate protection law has set out further ambitious goals[17]. This draft is, however, still in the negotiating phase, and it remains to be seen what will actually be set into practice.

GREEN RECOVERY TRACKER

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Promoting the exchange of oil and gas heating systems (€159 million, positive) • Investments into renewable hydrogen projects (€125 million, very positive) • Increase in energy efficiency in village centers and refurbishment of buildings (€50 million, positive)
Mobility	• Promotion of zero-emission buses and infrastructure (€256 million, very positive) as well as zero-emission commercial vehicles and infrastructure (€50 million, positive) • Construction of new railway lines and electrification of regional railways (€543 million, very positive)
Industry	• Investments into circular economy projects: empty deposit systems and measures to increase the reusable quota for beverage containers (€110 million, positive), retrofitting of sorting equipment (€60 million, positive) • Transformation of industries towards climate neutrality via investments in efficient use of energy (€100 million, very positive)
Buildings	• Fighting energy poverty by refurbishment projects (€50 million, positive) • Revive village centers through refurbishment projects (€50 million, positive)
Cross-cutting	• Increase funding for the biodiversity fund (€50 million, positive) • Support for the repair of electrical and electronic equipment (€130 million, positive) • Ecological investments in enterprises by energy reductions, refurbishment, sustainable mobility (€504 million, positive) • Climate change investment fund for cultural enterprises (€15 million, positive)

This report was written by Thomas Neier and Sigrid Stagl (both Wirtschaftsuniversität Wien). We are grateful to Jacqueline Klingen, Helena Mölter (both Wuppertal Institute) and Felix Heilmann (E3G) for providing valuable inputs.

REFERENCES

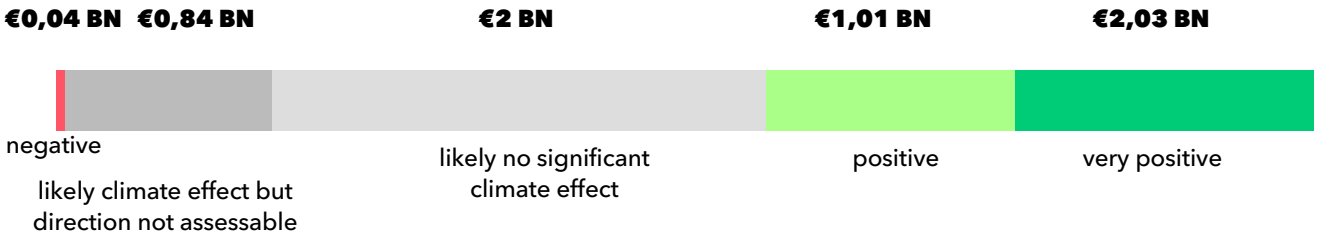
[1] Regierungsprogramm 2020-2024: https://www.bundeskanzleramt.gv.at/dam/jcr:7b9e6755-2115-440c-b2ec-cbf64a931aa8/RegProgramm-lang.pdf
[2] Wiener Zeitung: https://www.wienerzeitung.at/nachrichten/wirtschaft/oesterreich/2100340-Recovery-Fund-fuer-den-Wirtschaftsstandort.html
[3] Regierungsprogramm 2020-2024: https://www.bundeskanzleramt.gv.at/dam/jcr:7b9e6755-2115-440c-b2eccbf64a931aa8/RegProgramm-lang.pdf
[4] AK Ausendung: https://www.ots.at/presseaussendung/OTS_20210414_OTS0142/ak-anderl-bewaeltigung-der-krise-braucht-echten-schulterschluss-nicht-alibi-termine
[5] Momentum Institut: https://www.momentum-institut.at/news/eu-wiederaufbauplan-was-hat-sich-geaendert
[6] Eurostat: European Commission (2020). European Economic Forecast; European Commission (2020).
[7] Eurostat: https://ec.europa.eu/eurostat/web/main
[8] Wifo Monatsbericht 1/2021: https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=66832&mime_type=application/pdf
[9] RRF: https://ec.europa.eu/info/sites/default/files/about_the_european_commission/eu_budget/recovery_and_resilience_facility_.pdf
[10] Nationalrat Bericht 05.2021: https://www.parlament.gv.at/PAKT/PR/JAHR_2021/PK0547/#XXVII_III_00311
[11] Nationalrat Bericht 05.2021: https://www.parlament.gv.at/PAKT/PR/JAHR_2021/PK0562/#XXVII_III_00311
[12] Wifo Monatsbericht 1/2021: https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=66832&mime_type=application/pdf
[13] BMF Öffentliche Schulden: https://service.bmf.gv.at/Budget/Budgets/2021/beilagen/Oeffentliche_Schulden_2021.pdf
[14] Momentum Institut: https://www.momentum-institut.at/news/eu-wiederaufbauplan-nur-4-sind-neu
[15] Wifo Monatsbericht 1/2021: https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=66832&mime_type=application/pdf
[16] EU Commission: https://webgate.ec.europa.eu/competition/transparency/public/search/home
[17] BMK KSG: https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/nat_klimapolitik/klimaschutzgesetz.html

GREEN RECOVERY TRACKER

Last update: 14/07/2021

GREEN RECOVERY TRACKER REPORT: BELGIUM

The government of Belgium published the final version of its National Recovery and Resilience Plan (RRP) on April 30th 2021. The European Commission has adopted a positive assessment of Belgium's recovery and resilience plan on June 23rd. Belgium is set to receive a total of €5.9 bn through the EU Recovery and Resilience Facility (RRF). About 20% of this budget will be invested on the federal level, the remaining share will be distributed among federal entities. This report focuses primarily on the plan for the federal level, but provides some information on the plans by federal entities[1]. Our analysis shows overall, that the investments envisaged by the plan can make a very positive contribution to the green transition. This is reflected in the spending shares we identified (including all federal entities):



In focus: Green Spending Share

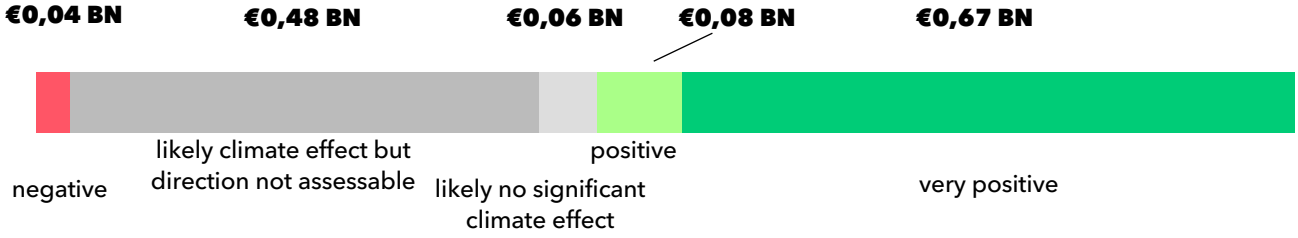
We find that all recovery measures across all federal entities reach a green spending share of 41%. According to the government, the plan's climate spending share is 50%, which was approved by the European Commission. In contrast, 1% (€0,04bn) of all measures have a negative impact. Furthermore, we find that 14% (€0,84bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures

[1] There is one official RRP by the federal government as well as 5 plans for the various federal entities: one for the Flemish Region and Community, one for the Walloon Region, one for the Brussels Region, one for the Walloon-Brussels Federation and one for the German Community

A special feature of the Belgian plan compared to other countries is the role of the regions: Regions have financial authority for some legislative areas in Belgium, the national budget was split up politically between the federal entities (*Federal level €1.25bn ; Flemish Region and Community €2.25bn ; Walloon Region €1.48bn ; Brussels Region and the French and German speaking Communities €0.94 bn*). Thus, the federal level plays only a subsidiary role.

When assessing Belgium's federal draft recovery plan (RRP), Belgium achieves a green spending share of 53%, above the EU's 37% benchmark. The results of our analysis are reflected in the spending shares we identified:



The federal government (which consists of the Social Democrats, the Liberals and the Greens from both parts of the country, and the Flemish Christian Democrats) was formed in fall 2020 and indicated a clear willingness to integrate an ecological transition into the recovery. The government highlighted the economic recovery, higher prosperity and a more resilient and greener economy in the long term as crucial elements of the post-COVID-19 recovery. Reflecting this, the Belgian plan is made of different measures organized across five strategic axes: Sustainability, Digital transformation, Mobility, Social issues, and Productivity.

Some green transition elements were already part of the political debate before the COVID-crisis hit Belgium. For example, the Belgian nuclear power plants phase out was set for 2025. Up until now it was still unclear how the energy mix will be generated without nuclear power. There has been a lack of investments in energy efficiency and renewable energy deployment to compensate for nuclear power. The federal government agreement also included a reference to structural tax reforms at federal level to support a transition towards a low carbon economy. More specifically, it refers to a new tax system to help bring together climate and environmental objectives. In April 2021, a federal instrument was also adopted aimed at monitoring the climate objectives of the federal government agreement, the National Energy and Climate Plan as well as the Belgian RRF plan.

OUR HIGHLIGHTS

Good Practice

Offshore wind-energy interconnection hub

Belgium plans the development of offshore wind-energy by installing an interconnection hub between different European countries (the so called "Wind-energy Island in the North Sea").

Bad Practice

Little support for renewable energy production

While Belgian nuclear power plants will probably close by 2025, there is insufficient investment in renewable energy production included in the plan, which may cause that (at least on the short term) the Belgian electricity production will increasingly rely on gas-fired power plants.

To Our Surprise

Focus on Infrastructure

60% of the Belgian RRF budget is devoted to infrastructure (construction/renovation sector). Nevertheless, the sole Federal government project related to this issue concerns the renovation and transformation of one specific building only: the former Brussels Stock Exchange building (Beurspaleis / Palais de la Bourse).

KEEP AN EYE ON...

- **...the implementation of investments**, as there are no indications of a minimum standard or of climate objectives in most investment projects. Sustainability indicators should be introduced for all measures as evaluation metrics.
- **The offshore wind-energy interconnection hub** has a lot of potential. It is however crucial that this Hub uses circular economy models and also minimizes the potential loss of biodiversity.

> **…the need of additional investments:** Belgium's Recovery and Resilience Plan covers the grant portion of the money available through the RRF. Additional funding is foreseen to complement the RRF but it seems to be limited compared to the needs: 0.2% of GDP instead of 4% needed according to a study of the "Centrale Raad voor het Bedrijfswereld/Conseil Central de l'Economie". Regarding federal investments in energy infrastructures (as H_2 and CO_2 backbone or offshore energy island), they will benefit from 10% of the federal R&D funding dedicated to projects in line with climate and energy, and from the support of the national gas grid operator for new developments (renewable gases, hydrogen, sector coupling). Nevertheless, it is important to mention that e.g. the Flemish plan foresees a bit more than €2bn in investments next to their share of the RRF, which in itself is 0.4-0.5% of the overall Belgian GDP.

> **…the lack of additionality**: Different investment projects should have already been funded without the RRF (especially regarding federal investments). Instead of taking Belgians climate-neutral transition up a notch the RRF is simply supplementing a lack of public investment in the past.

> **…the relatively low level of public consultations**. There were two representative bodies, one with employers/employees and one with sustainable development actors (same but with associations) installed.

> **…the need for a higher level of coherence and** coordination between investment projects and structural reforms, but also between the different federal entities (which was criticized by the European Commission with regard to the Belgian NECP last year as well), as well as between Belgium and other (European) countries

> **…the lack of transparency of investments:** Investment must focus on multi-benefits projects, but the current allocation of budgets lacks transparency. There are often no clear indicators, (intermediary) objectives or monitoring foreseen, while projects of the draft plan are not detailed enough to be sure that the budget will really be used for the objective it is meant to be use for.

> **…the energy sector:** While Belgian nuclear power plants will probably close by 2025, there is insufficient investment in renewable energy production included in the plan, most probably because these competences lie at the regional level. Hubs and networks are favored instead to promote H_2, CO_2 capture and storage, offshore wind energy exchanges inside the country and with neighboring countries. Green H_2 must be promoted because of its better environmental performance.

> **...the construction sector:** Whereas the Belgian plan puts 60% of the Belgian RRF budget in the construction sector, there seems to be lack of sufficient training programs as Belgium is already a labor shortage in the sector.

OVERVIEW: MOST IMPORTANT MEASURES OF THE FEDERAL RECOVERY PACKAGE BY SECTOR

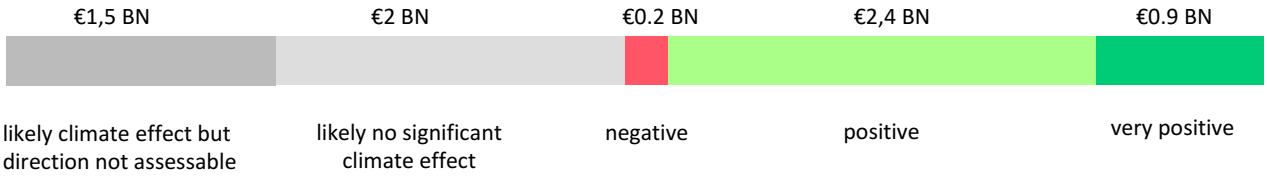
Sector	**Most important measures with effect on green transition**
Energy	• Off-shore energy islands (€0,1bn, very positive)
Mobility	• Velo Plus - development of new quality and safe cycling infrastructures in Brussels and from/to Brussels (medium and long distances) (€0,01bn, very positive) • Railways - accessible and multimodal stations (€0,08bn, very positive) • Railways – an efficient network (€0,28bn, very positive)
Industry	• Backbone for H_2 and CO2: Developing a backbone for hydrogen and CO2 (€0,1bn, very positive) •An industrial value chain for hydrogen transition. This call for projects will stimulate demonstration projects linked on the production and use of hydrogen (€0,1bn, very positive)
Buildings	• Building (energy) renovation (€0,01bn, positive)
Cross-cutting	• Belgium Builds Back Circular (€0,03bn, positive)

This report was written by Sandrine Meyer, Prof. Marek Hudon (both Université Libre de Bruxelles) and Helena Mölter (Wuppertal Institute). We are grateful to Domien Vangenechten (E3G) for providing valuable inputs and for supporting the review process.

GREEN RECOVERY TRACKER REPORT: BULGARIA

The first draft of Bulgaria's national Recovery and Resilience Plan (RRP) was published in October 2020. The plan consisted of four main pillars (Innovative Bulgaria, Green Bulgaria, Connected Bulgaria and Just Bulgaria) outlining recovery measures, as well as funding estimates. The second draft (Version 1.1) of the plan was released in February 2021[1] which is the basis for this analysis.

The Bulgarian RRP comprises measures worth €7.1bn (nearly 10% of domestic GDP) including €5.91bn from the EU Recovery and Resilience Facility. Overall, the plan makes a positive contribution, as our analysis identifies the following spending shares:



In focus: Green Spending Share

We find that Bulgaria's draft recovery plan achieves a green spending share of 27%, which is below the EU's 37% climate-spending benchmark. In contrast, 3% (€0.24bn) of all measures have a negative impact. Furthermore, we find that 21% (€1.52bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the planning, review and implementation of the recovery measures. The draft RRP also includes some green measures (e.g. the extension of the metro lines in Sofia) that were already planned before the pandemic. Not all elements can, therefore, be counted as additional green investments.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Stand-alone house energy efficiency measures

The Bulgarian RRP includes a dedicated programme to finance stand-alone house energy efficiency measures such as the purchase of energy efficient heat-pumps, solar systems for household heat supply and PV systems in buildings that are not connected to heat and gas transmission networks.

Bad Practice

Support for natural gas pipelines for future hydrogen transport

Although gas will play a certain role in the medium-term decarbonisation pathways until 2030, the strong focus on gasification of the coal regions without diversified sustainable alternatives could lead to a long-term lock-in of fossil-fuel-based infrastructure and undermine Bulgaria's decarbonisation efforts in the long-term potentially putting its 2050 climate-neutrality target at risk.

To Our Surprise

Support for the modernization of the power transmission system operator

The Bulgarian RRP incudes a measure dedicated entirely to the modernization and digitalization of the power transmission system operator (€0.26bn).

GENERAL CONTEXT

Before the crisis, political discourse in Bulgaria centered on the high level of corruption and Bulgaria's upcoming entry into the ERM II mechanism for accession to the Eurozone.

Both national and EU financial resources were affected by corruption and economic mismanagement scandals in the past, which have enabled the capture of key economic sectors and the expansion of oligarchic networks. This has led to a decline in public trust in the ability of the national administration to appropriately absorb and spend funds. With the upcoming entry into the ERM II concerns have been raised by the public about the effects of the introduction of the euro on prices and purchasing power with the goal of delaying the ERM II entry process.

From a green transition perspective, the coal phase-out and the EU's climate neutrality goal have been controversial topics in the political and general public debate. The government has been concerned that the coal phase-out could endanger Bulgaria's energy security and that decarbonisation is not consistent

with the existing socio-economic conditions in Bulgaria. However, studies have shown that it is not the decarbonisation of the electricity sector that is driving up the wholesale electricity prices but the increasing price of the ETS quota, a key cost component in the generation of electricity in Bulgaria due to the overreliance on lignite burning for power generation.[2]

A possible coal phase-out can not only be linked to environmental concerns like air pollution and the current emissions levels but also to the economic restructuring of the coal regions and the government's capacity to mobilise and use new EU funds (in particular the Just Transition Fund) efficiently for this purpose.

The Bulgarian recovery plan prioritises large infrastructure projects (e.g. building infrastructure for the transmission of hydrogen produced from gas in the coal regions that could lead to a long-term lock-in fossil fuel infrastructure) and the proposed large-scale energy-efficiency renovation programs that do not reflect the highest climate ambitions. Large energy infrastructure projects, such as the Russia-driven Belene Nuclear Power Plant and the Turkish Stream gas pipeline, increase the risks of locking-in carbon-intensive energy infrastructure and diverting essential resources away from renewable energy investments and the decentralization of the electricity supply.

Context indicators[3]	**Bulgaria**	**EU average**
GDP (2019)	**61.2 bn €**	
GDP (per capita, 2019)	**8780 €**	**31130 €**
GDP (per capita, 2020, provisional)	**8750 €**	
Debt (% of GDP, 2019Q4)	**20.2 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**25.3%**	**89.8%**
Unemployment Rate (December 2019)	**3.3 %**	**6.5 %**
Unemployment Rate (August 2020)	**4.2 %**	**7.7 %**
Unemployment Rate (December 2020)	**5.9%**	**7.5%**
Real GDP forecast for 2020	**- 7 %**	**- 8.3 %**
Real GDP forecast for 2021	**+ 5.3 %**	**+ 5.8 %**
Total recovery spending	**€7.1 bn**	
EU recovery funding (grants only, current prices)	**€5.91bn**	

KEY FOCUS AREAS OF THE BULGARIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

The Bulgarian government has focused on restoring 'economic growth potential' after the COVID-19 crisis and ensuring future "resilience to its negative impacts on society and [the] economy"[4]. There is a clear intention to improve the fundamentals of Bulgaria's pre-COVID-19 economy and not just to recover from the crisis at hand. Modernisation and internationalization aims have been set out within the RRP, as a 'strategic goal of the Bulgarian government' to attain the 'convergence of the economy and incomes to the EU-average.'

The Council of Ministers launched the first version of the RRP for public consultations in October 2020. Several interested stakeholder organisations and individuals have sent comments and submitted their official positions to the official website for public consultations. Furthermore, various ministries organised virtual expert-oriented consultations, where interested stakeholders could also provide their input, comments and suggestions.

The political debate on the recovery measures centered on three main issues:

- The RRP's energy efficiency and renovation measures do not reveal a desire to increase the ambition of already-existing transition trajectories.
- Renewable energy associations and environmental NGOs highlighted the need to improve the regulatory framework for promoting the role of prosumers and energy communities in the energy transition.
- The vagueness of the proposed national decarbonization fund has been criticized. There is limited knowledge of the scope, vision or criteria for the use of the fund

Version 1.1 of the Bulgarian plan was published in February 2021 without a second round of public consultations. The "Green Restart" Coalition criticised the lack of transparency and dialog with stakeholders[5].

FINANCING AND ADDITIONALITY OF BULGARIA'S RECOVERY PACKAGE

The announced recovery measures are funded through a mix of EU funds, instruments and projects, such as the Recovery Fund, the Just Transition Fund, the Cohesion Policy and the InvestEU programme. The recovery process will also entail additional measures in the operational programmes for the management of the Bulgarian budget in the Multiannual Financial Framework.

The draft plan announced the launch of a national decarbonisation fund, which is to be set up as part of the recovery process to finance investments in renewable energy, energy efficiency and other low-carbon technologies. This will be sourced from EU funds, the national budget, as well as from international financial institutions, however, the details of the funding opportunities (scope and criteria for the use of the fund) are largely unclear.

GOVERNANCE OF THE RECOVERY PACKAGE

The Bulgarian RRP explicitly states that its objective is to lay 'the foundations for a green and digital transformation of the economy, in the context of the ambitious goals of the Green Deal'. The strategic document outlines the measures that contribute towards a circular economy and are explicitly linked with European legislation for a climate-neutral economy. The draft plan also refers to Bulgaria's Long-Term National Strategy to support the renovation of the building stock and energy efficiency. However, there is no reference to the National Energy and Climate Plan (NECP) or other climate-related plans and obligations but the implicit targets to be achieved by the energy efficiency funding streams are in line with those in the energy efficiency pillar of the NECP.

The programme explicitly defines its overarching green target as requiring 37% of resources to be spent on initiatives furthering a green economic and social transition. It suggests measures that will contribute towards the achievement of the European Green Deal targets.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

During the pandemic, two major social regulations were introduced to limit unemployment and ensure the continuation of business activities. The first was the 60/40 rule which mandated that the government will cover 60% of workers' wages in a type of furlough scheme to reduce the burden on employers. The second scheme provided direct grants of €148 each month to all companies regardless of size and including the self-employed in sectors worst hit by the outbreak e.g., tourism, transport and leisure-related businesses. Both schemes were co-financed by the European Social Fund. There have been various other social support measures that have sought to reduce the burden on industry such as direct grants to farmers from the State Fund for Agriculture and the deferral of concession payments by airports in Burgas and Varna to address liquidity needs. A moratorium, or credit break, has been established on bank loan payments for up to 6 months with a deadline set for the end of March 2021. Another measure has been the issuance of interest-free loans to employees on unpaid leave, the self-employed and seasonal workers (up to €3536, with extended deadline for applications up to the end of June 2021). A total of €0.1bn has been aside for this scheme. The government has also given extensions on unpaid utility bills and tax relief to households with disabled children.
Further important short-term liquidity and state aid measures include:

- The Bulgarian government increased the capital of the state-owned Bulgarian Development Bank by €0.36bn. This amount was divided into €0.26bn for corporate loan guarantees issued by commercial banks and €0.1bn for interest-free loans to employees on unpaid leave.
- Further €0.18bn were given for direct grant support to SMEs during the crisis, which have seen their revenues collapse due to the COVID-related economic restrictions.
- €0.51bn was provided for additional business lending through the Fund Manager of the Financial Instruments in Bulgaria.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- **Energy efficiency measures in the "Low Carbon Economy" program (€1.84bn).** There is a dedicated program to finance energy efficiency measures for stand-alone houses (€0.02bn, very positive) such as the purchase of energy efficient heat pumps, solar systems for household heat supply and PV systems in buildings that are not connected to heat and gas transmission networks. The proposed mechanism to finance energy efficiency and RES projects, as well as the establishment of one-stop-shops to lower the administrative burden for households and companies are all very positive elements of the recovery plan. However, most of the measures lack specific details and targets. The energy efficiency measures are also allocating funding to already-existing programs for buildings renovation.

- **The Transport Connectivity Program (in total €0.92bn; very positive)** puts a strong emphasis on the digitalization and modernization of railway infrastructure, which has been largely neglected in the past, and on building sections of Line 3 of the Sofia metro. However, more funds have to be dedicated to such measures given how out of date current rail infrastructure is. The program on urban mobility puts a big emphasis on greening public transportation in Sofia but does not allocate resources for transport projects in other big cities in Bulgaria that are also developing economically such as Plovdiv, Bourgas and Varna, as well as upgrading and expanding the transport infrastructure in the Northern part of Bulgaria, which is less interconnected than the South.

- **Development of three funds (Technological Modernisation; Green Transition; Support for Digitalization of Enterprises (in total €0.88bn)) to follow up on the objectives of the previous Economic Transformation Program**. These funds aim to facilitate the needed transition to a circular economy with recycling technologies, standardization and eco-innovation as well as guaranteeing industrial symbiosis. The Green Transition Fund (€0.25bn, very positive) aims to support industry, including SMEs, in implementing solutions towards a sustainable circular economy, so they can become more energy and resource-efficient.

- **Design, build and commission infrastructure adequate for transmission of hydrogen and low-carbon gaseous fuels for supply of power stations and other consumers in Bulgaria's coal regions (€0.24bn, negative).** This measure, despite its stated aim to support the development of a hydrogen infrastructure, is most likely to support an increased use of natural gas in at least the short- to mid-term, especially with regards to the use of natural gas for power generation. Officials have stated that this infrastructure could be initially used for fossil gas, not hydrogen, until hydrogen technologies will be commercial. This creates a significant risk for a natural gas lock-in of the whole energy system.

- **Establishment of national decarbonisation fund:** This fund aims to support investment in low-carbon initiatives via sustainable and targeted financing. Four phases have been defined: i) Technical support for consultations on the establishment of the Fund, DG Reform, EC (Q1/2022),

ii) Drafting proposals for regulations establishing the rules for the structuring and operation of the fund (Q4/2022), iii) Institutionalisation of the Fund (Q1/2023), iv) Conducting an information campaign to promote the Fund (Q2/2023).

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Social inclusion (in total €0.49bn) of vulnerable groups (people with disabilities, elderly people and children, persons and families in a disadvantaged situation, etc.) and improving the quality and extending the scope of the social services, introduction of integrated approaches in the provision of social services alongside the development of integrated services.

- Measures to advance the digital transition within the program "Digital Connectivity (in total €0.51bn)

- Measures included in a program on "Education and skills" (in total €0.77bn) that includes among others measures to improve e-learning and further digital technologies and improvement of the infrastructure. However, it is very generic and not defines priority areas. A dedicated sub-programme about skills readjustment and in particular capacity building for green economy jobs is lacking.

- Additional funding for the healthcare system in the "Health" program (in total €0.34bn) such as modernizing facilities, equipment and introduction of new technologies and development of various health treatments.

A further overview of the most important measures by sector can be found in the annex, below.

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

During 2020 no legislation was adopted regarding climate policy in Bulgaria.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	Most important measures with effect on green transition
Energy	• Establishment of national decarbonisation fund • Energy-efficient municipal outdoor artificial lighting systems (€0.18bn, positive) • Mechanism to finance energy efficiency and RES projects together with electricity bills • Design, build and commission infrastructure adequate for transmission of low-carbon gaseous fuels (and hydrogen) for supply of power stations and other consumers in Bulgaria's coal regions. (€0.24bn, negative) • Scheme to support pilot projects for production of green hydrogen and biogas. (€0.04bn, very positive) • Preparing and adopting a National Roadmap to improve the conditions for unleashing the potential of hydrogen technologies and mechanisms for production and supply of hydrogen • Support producers of energy from RES - develop, facilitate and accelerate international trade in guarantees of origin • Digital transformation and development of information systems and real-time systems of the Electricity System Operator in the conditions of low-carbon energy sector (€0.26bn, very positive)
Mobility	• Digitalise rails and energy efficiency in core and extended TEN-T network (€0.14bn, very positive) • Restructuring and Rehabilitation of key station complexes (€0.04bn in total, very positive) • Modernisation of traction substations and section posts along the core and the extended TEN-T network (€0.14bn, very positive) • Provision of sustainable transport connectivity and service through purchase of energy efficient and comfortable rolling stock (€0.16bn, very positive) • Ensuring sustainable transport connectivity by building sections of Line 3 of Sofia metro (€0.39bn, positive) • Update the strategic framework of the transport sector • Integrating sustainable urban mobility into strategic planning for regional and spatial development • Pilot scheme Green Mobility for renewal of rolling stock for urban and interurban transport (€0.05bn, very positive)

Industry	• Updating the strategic framework of the industrial sector • Building a mechanism to attract industrial investments and develop industrial ecosystems • Public support for development of industrial parks and improvement of their infrastructural connectivity (€0.2bn, direction not assessable) • Economic transformation programme (for a technological modernisation fund, a green transition fund and a digitalisation fund) (€0.88bn, direction not assessable) • Large scale deployment of infrastructure (€0.51bn, direction not assessable) • Creating a favourable investment environment to encourage private investments • Develop and implement an effective policy and regulatory framework
Buildings	• Improving energy efficiency in the building stock (€1.1bn, positive) • Developing a definition of "energy poverty" for households in the Energy Efficiency Act for the purposes of financing energy efficiency projects • Finance single energy efficiency measures in one-dwelling buildings and multi-dwelling building that are not connect to heat and gas transmission networks (0.02bn, very positive). • Lower the administrative burden associated with the renovation processes • Programme for construction/further construction/ reconstruction of water and sewerage systems and wastewater treatment plants (€0.3bn, positive)
Agriculture	• Updating the strategic framework in the field of biodiversity • Biodiversity - Ecosystem Approach and nature-based solution • Digitalisation of the farm to fork processes • Measures of the Sustainable Agriculture pillar (€0.45bn, direction not assessable)
Cross-cutting	• Programme for accelerating economic recovery and transformation through science and innovation (€0.16bn, direction not assessable) • Programme for increasing the Innovation Capacity of the Bulgarian Academy of Sciences (BAS) in the Fields of Green and Digital Technologies (€0.02bn, positive) • Implementing a common policy for development of research, innovation and technology towards improved economic and social development of the country • Support for Digitalisation of Enterprises (€0.14bn, direction not assessable) • Modernising facilities, energy efficiency and equipment and introduction of innovative technologies for treatment of the population of major state and municipal medical institutions (€0.3bn, positive)

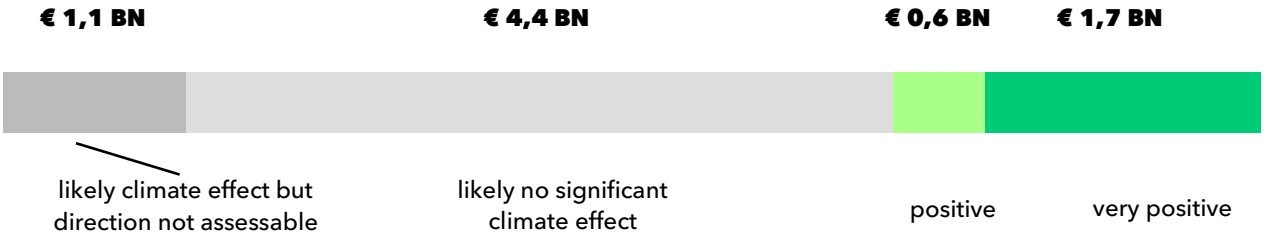
This report was written by Dr. Radostina Primova (CSD) and Magdolna Prantner (Wuppertal Institute). We are grateful to Martin Vladimirov (CSD), *Gregori Stefanov, Apostol Dyankov (both WWF Bulgaria) as well as Johanna Lehne, Felix Heilmann (both E3G), Helena Mölter and Timon Wehnert (both Wuppertal Institute) for providing valuable inputs.*

REFERENCES

[1] Website of the Council of Ministers of the Republic of Bulgaria https://www.nextgeneration.bg/14
[2] https://csd.bg/fileadmin/user_upload/publications_library/files/2019_06/DECARBONISATION_ENG_WEB.pdf
[3] Eurostat; European Commission (2020). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[4] https://www.nextgeneration.bg/14
[5] https://move.bg/open-letter-march

GREEN RECOVERY TRACKER REPORT: CZECH REPUBLIC

In May 2021, after a contentious process, the Czech government adopted the national Recovery and Resilience Plan (RRP), with significant changes relative to previously released drafts. Throughout the process, civil society actors have criticized the lack of opportunities for effective participation. Overall, we find that the measures included in the plan, with investments of €7.9bn, equaling 3.7% of Czechia's GDP, can make a positive contribution to the green transition, though there are several specific shortfalls. Our analysis identifies the following spending shares:



Together with other available financial instruments, the RRP can principally be seen as a positive contribution to much-needed progress on the green transition in Czechia. Nevertheless, the government's application of the climate tracking methodology does not always stand up to closer scrutiny, and the risk of a high carbon lock-in through investments in fossil gas projects remains a particular issue.

In focus: Green Spending Share

We find that Czechia's recovery plan (RRP) achieves a green spending share of 25%, below the EU's 37% benchmark. Furthermore, we find that 15% (€1.1bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. According to the government, the plan's climate spending share is 41% (see page 5 for more details).

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

GREEN RECOVERY TRACKER

OUR HIGHLIGHTS

Good Practice

Investments in energy efficiency and climate adaptation

The Czech RRP allocates dedicated funding to important parts of the green transition, such as residential energy efficiency measures, biodiversity measures and climate adaptation. Nonetheless, the ultimate contribution of these measures will also depend on the specific targets and milestones that will be defined for their implementation, which have to be aligned with clear standards in order for the measures to make a very positive contribution.

Bad Practice

Lack of a strategic vision, including on the green transition

There is no clear strategic vision guiding the use of the additional funding through the EU Recovery and Resilience Facility. With regards to the green transition, the RRP's relevant components are not strongly linked to each other or to an overarching framework, and do not sufficiently take EU-level dynamics regarding the implementation of the European Green Deal into account.

To Our Surprise

Funding for brownfield regeneration disappearing and re-appearing

Early drafts of the recovery plan included funding for the regeneration and use of public areas (brownfields), a measure that could also contribute to the green transition if the investments are used to increase the areas' adaptive capacity and to allow for the development of renewable energy and sustainable mobility projects. These measures were, however, removed in the version presented to the public in April 2021, only to be re-introduced into the version of the plan that was ultimately adopted by the government in May 2021.

GENERAL CONTEXT

Prior to the COVID-19 crisis, the economic situation in the Czech Republic was relatively stable, and economic issues were largely absent from the public agenda. The key economic issue that was being discussed was the low added value of industrial products manufactured in Czechia. The national economy, despite Czechia being one of the most heavily industrialized countries in Europe, relied on cheap labour, suffered from brain drain and was not fully utilizing its potential for high-tech production. There were also significant concerns with regards to the overall low wage levels in the country.

Within the field of climate policy, the coal phase out was a dominant topic. In 2019, the government convened a commission to make recommendations regarding timetable and modalities for the Czech coal exit. It recommended that coal should be phased out only by 2038, but the result was not formally endorsed by the government as a result of a strong opposition in favor of an earlier date. The social aspects of the green transition are also an important topic in the national debate, especially with regards to the development of (former) coal regions. Lastly, long-lasting droughts and bark-beetle calamities have had manifest impacts on the state of Czech forests and arable lands, leading to an active debate on climate adaptation. At the same time, the land use sector has turned from an emission sink to a significant contributor to greenhouse gas emissions.

Context indicators[1]	**Czech Republic**	**EU average**
GDP (2019)	**213.7 bn €**	
GDP (per capita, 2020)	**19970 €**	**29660 €**
Debt (% of GDP, 2019Q4)	**30.2 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**38.4 %**	**89.8 %**
Unemployment Rate (December 2019)	**2.0 %**	**6.6 %**
Unemployment Rate (December 2020)	**3.1 %**	**7.4%**
Real GDP forecast for 2020	**- 5.6 %**	**- 6.8 %**
Real GDP forecast for 2021	**+ 3.2 %**	**+ 3.7 %**
EU recovery funding (grants only, current prices)	**7.1 bn €**	

KEY FOCUS AREAS OF THE CZECH RECOVERY DEBATE AND THE RECOVERY PACKAGE

The self-described goals of the Czech Recovery and Resilience Plan are a "short-term strengthening of resilience and economic recovery" as well as "to increase economic prosperity and quality of life in the longer term". [2] As the Czech Republic has one of the lowest levels of unemployment in the EU, the plan's ambition with regards to the economic recovery is focused on productivity increases and maintaining existing employment. Furthermore, according to the government, the RRP strives "to strengthen competitiveness not in the form of price competition, but through rapid digitalization, building smart infrastructure and the so-called green transition."[3] Lastly, the government also emphasizes the importance of supporting science, research and innovation through the plan.

The process around the development of the plan was contentious from its very beginning, mainly due to the absence of a public debate when a first draft was submitted in October 2020 and the absence of proper participatory processes throughout the plan's development. [4] Especially early versions of the plan were perceived as strongly lacking a strategic vision and internal coherence.

The most debated component of the RRP was its second pillar on "physical infrastructure and green transition", which will likely receive the largest share of funding. A first draft allocated 118 billion CZK, ca. 65% of the overall recovery funding of 182 billion CZK, to this pillar. The adopted version of the plan which is the object of our analysis only allocates over 90 billion CZK to this component, ca. 46% of the total of 199 billion CZK. Many of the measures that were previously included in this component were criticized for being not aligned with the green transition, such as investments into road and highway infrastructure, and it is likely that EU-level requirements and evaluations from the European Commission enabled these positive changes. Furthermore, civil society organisations and academics equally criticized that earlier drafts did not exhibit the necessary level of ambition on biodiversity, forest health and water retention measures. [5]

Lastly, the draft plan was criticized for prioritizing "hard" measures, such as investments in infrastructure, over "soft" measures focusing on, for instance, social inclusion or the education sector. Even the Deputy Head of the Government, Jan Hamacek, stated that Czechia should not "pour billions into concrete and patches of the state budget".[6]

FINANCING OF CZECHIA'S RECOVERY PACKAGE

The RRP's measures are entirely financed through the Next Generation EU recovery instrument, utilizing the full amount of grants available and a very limited amount of the available loans. In addition, the government has taken on significant new debts to finance short-term economic stabilization measures, with a planned state budget deficit for 2020 of 500 billion CZK. [7]

GOVERNANCE OF THE RECOVERY PACKAGE

The RRP uses the Czech National Energy and Climate Plan (NECP) as the key point of reference for its alignment with the national climate and energy framework, complemented with ad hoc references to other relevant documents, including the national long-term strategy. The European Green Deal and EU climate targets, including a higher target for 2030, are briefly mentioned in several relevant components of the plan, but are not further utilized in the plan's general framework. Furthermore, it must be noted that Czechia's NECP, which underpins the plan's actions on climate and energy, is not aligned with the EU's new 2030 climate target and is not even fully aligned with the previous target in some dimensions.

Across the plan, "green targets" are referred to only in general terms, without any further definitions. The RRP nonetheless mentions the six objectives of the EU Taxonomy and refers to it in its elaboration on the "Do No Significant Harm" (DNSH) principle. According to the government, the plan achieves a 41% share of climate spending, while the analysis based on our methodology[1] identifies 25% green spending. This is mostly the result of our assessment being less positive for a number of measures which will likely not contribute to the green transition in their current form, such as investment support for business, as well as measures that may partly even undermine the green transition, such as direct and indirect for fossil gas in decentralized and district heating.

The RRP includes a section describing the modalities of implementation and monitoring procedures, which has been extended and made more robust compared to the earlier drafts. The central coordination shall be carried out by a Delivery Unit, a dedicated department under the Ministry of Industry and Trade. In response to strong criticism aimed at the earlier draft of the plan, a Steering Committee has been established as the key decision-making, monitoring and supervision structure. It shall be composed of representatives of the competent ministries and the European Commission. Responding to a direct request by civil society organizations,

[1] Green Recovery Tracker (2021). Methodology

their representatives were also invited to take part in it. At the same time, responsibility for auditing was eventually shifted from the Ministry of Industry and Trade towards the Ministry of Finance, thus promising greater transparency.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The Czech government has prepared a range of short-term support programmes for individuals and entities suffering from the economic impacts of the pandemic and necessary response measures. These include a antivirus program intended to help companies, with the state reimbursing 80% of eligible expenses, such as wage compensations paid to employees; a program for the gastronomy sector, with payments of 400 CZK per employee per day, a nursing allowance program for parents who were forced to stay at home due to school closures, and a "Covid Plus Guarantee" for large exporters.

Smart Wings, the biggest airline in the Czech Republic, has been one of the beneficiaries of the "Covid Plus Guarantee". Another Czech airline, CSA, a subsidiary of Smartwings, has gone bankrupt due to debt, despite the plea of its parent company for a state-guaranteed loan as CSA was not meeting requirements for the Covid Plus Programme. No other measures specifically targeting airlines have been in preparation.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- Measures supporting the electrification of railways (€264m) and railway infrastructure (€454m), which we assess as very positive due to their contribution to sustainable mobility.
- Investments into energy efficiency improvements for public buildings (€295m), which we assess as very positive due to the importance of efficiency improvements in the green transition and because the measures contain sufficiently ambitious targets and performance indicators. A further measure for investments into energy efficiency improvements in residential buildings (€393m), despite additional benchmarks, can only be assessed as having a likely climate effect that is not assessable due to the fact that support for gas boilers in family homes has been incorporated, creating a risk of carbon lock-in.
- New solar PV installations (€196m) which we assess as very positive due to the importance of increasing renewable electricity generation.
- Various investments into electric charging infrastructure for vehicles, which we assess as very positive due to the importance of replacing the use of oil in the transport sector.
- Investments into the replacement of old heating sources in residential buildings (€334m), which we now assess as very positive because this measure now focusses on genuinely renewable heating systems, after an earlier version had included support for fossil gas boilers. However, it must be noted that the support for gas boilers has instead now been incorporated into an energy efficiency measure (see above).
- Investments into the modernization of district heating (€65m), which we assess as having a likely climate effect that is not assessable, as the heat sources to be supported are not specified. Therefore, this measure could still support fossil fuel heat generation.
- Investments into climate-resilient forests (€336m), which we assess as positive due to the contribution of such nature-based solutions to climate mitigation.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• New solar PV installations (€196m, very positive) • Modernization of district heating (€65m, likely climate effect but direction not assessable)
Mobility	• Support for railway infrastructure (€454m, very positive) • Electrification of railways (€264m, very positive) • Various measures to support public and private charging infrastructure
Industry	• Research and development in enterprises (€322m, likely climate effect but direction not assessable) • Recycling infrastructure (€63m, likely climate effect but direction not assessable) • Circular solutions in private companies (€39m, positive)
Buildings	• Energy savings in residential buildings (€393m, likely climate effect but direction not assessable) • Replacement of old heating sources in residential buildings (€334m, very positive) • Energy efficiency measures in public buildings with the target of increasing deep renovations (€295m, very positive)
Agriculture	• Creating climate-resilient forests (€336m, positive)

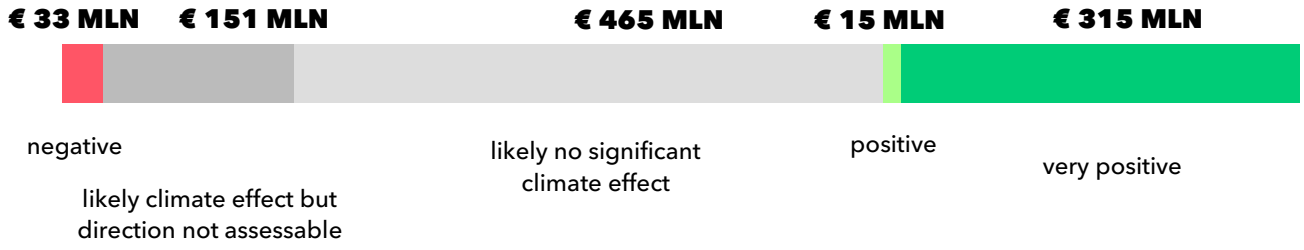
This report was written by Tomáš Jungwirth and Jan Svoboda (AMO) and Felix Heilmann (E3G). We are grateful to David Nemecek (ISFC), Jan Skalik and Anna Karnikova (FoE CZ), Simon Batik (CDE) and Magdolna Prantner (Wuppertal Institute) for providing valuable inputs.

REFERENCES

[1] Eurostat; European Commission (2021). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[2] Východiska národního plánu obnovy, p.10
[3] Východiska národního plánu obnovy, p.10
[4] Příprava národních plánů obnovy nejde v zemích V4 úplně hladce, Euractiv, February 2021
[5] Otevřený dopis k obnově krajiny, Hnutí DUHA (FoE CZ), March 2021
[6] Miliardy z Evropského fondu obnovy budou pro Česko prokletím, iRozhlas, December 2020
[7] Vláda schválila novelu Zákona o státním rozpočtu na rok 2020, Ministry of Finance, June 2020

GREEN RECOVERY TRACKER REPORT: ESTONIA

On March 5, the Estonian government published the planned allocation of recovery funds through the EU Recovery Facility to different measures, along with rather brief and general descriptions of the measures, but not a full Recovery and Resilience Plan. An updated version of this overview was released in May 2021, which includes a higher share of green spending (an increase from 25% to 33%), mostly due to the removal of measures with no climate relevance. A week of public consultations for selected measures that took place in March 2021 provided little additional information. Overall, we find that the planned measures, with investments of €1.0bn (4% of Estonia's GDP (2019)), can make a positive contribution to the green transition, though more information on the specific implementation of the measures will be necessary for a final assessment. Our analysis identifies the following spending shares:



Many measures aim to support the green transition, most notably by establishing a green fund for companies' green transition and including investments into energy efficiency, the energy grid, storage and renewables. However, due to a lack of details on measures and their implementation, there is a risk that several measures could adversely affect the green transition.

In focus: Green Spending Share

We find that Estonia's latest draft recovery plan (RRP) achieves a green spending share of 33%, below the EU's 37% benchmark. Furthermore, we find that 15% (€151m) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Support for enterprises in the green transition

Estonia's draft RPP allocates €100m to a green fund which will provide investment support to companies that develop technologies for the green transition.

Bad Practice

Lack of effective climate conditions

Some measures included in the draft RRP could potentially undermine the Green Deal. Due to the low level of detail provided about the measures, it cannot be ruled out that many of the proposed measures include only weak climate conditionalities that support the growth and longevity of resource-intensive and polluting companies and sectors. These measures include, for instance, supporting firms' export capacity, adopting innovative and resource-efficient technologies, supporting more effective use of bioresources and constructing a new transport terminal for Rail Baltic.

To Our Surprise

Analysing the climate and environmental impact of digitalization

The Estonian Ministry of Economic Affairs and Communication has commissioned a study that will analyze the climate and environmental impact of digitization policies. The study will be finalized at the end of 2021 and will help Estonia choose the least environmentally harmful path towards digitalization.

KEY FOCUS AREAS OF THE ESTONIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

The Estonian government is combining the funding available through the EU Recovery Facility with other EU funds to finance the long-term priority areas outlined in its general national strategy "Estonia 2035". These priority areas are 1) smart specialization, 2) green development, 3) regional connectedness, 4) social cohesion, and 5) people-centred governance. The recovery debate is therefore closely linked, and often overshadowed, by more general strategic discussions regarding the country's long-term economic development. There have been separate measures that were agreed as immediate crisis response steps, such as unemployment benefits, wage subsidies, and direct state aid for the most effected sectors.

FINANCING AND ADDITIONALITY OF ESTONIA'S RECOVERY PACKAGE

Short-term crisis response measures have been provided through a supplementary domestic budget. The volume of the supplementary budget is €641m, which is covered by a loan that falls within a €8bn loan limit approved in December 2020. No taxes have been raised for the purpose of financing the recovery measures. According to the government, the supplementary budget will not permanently increase the expenditure of the state budget.

Long-term economic development measures have been funded through RRF, MFF, REACT-EU and the Modernisation Fund. However, it is difficult to distinguish between recovery measures and other measures in the allocation of these funds because there is no single "recovery package" and the national Recovery and Resilience Plan (RRP) is mostly used to support the broader economic development strategy. Our analysis focuses on the RRP as it is the single element most closely linked to the economic recovery debates.

GOVERNANCE OF THE RECOVERY PACKAGE

The recovery measures are aligned with the general national strategy "Estonia 2035", including one of its five priority areas "Green Estonia". The strategy includes rather vague environmental and climate targets such as climate neutrality by 2050 and the UN Sustainable Development Goals. The measures are not linked to any legally binding acts other than what has been imposed by the EU level.

According to the government, the minimum share of 37% climate expenditure in the RRP is achieved. However, due to missing information on the specific projects that will be supported, there are significant uncertainties over many measures, including on their actual contribution to climate action and on whether some measures may even have a negative climate and environmental impact due to weak or unspecified conditionalities. Also, it seems that different ministries have diverging understandings of what the "do no significant harm" principle entails and to what extent the EU Taxonomy should be adhered to, with the Environment Ministry being significantly more aware of the importance of this than other ministries. Environmental organizations have suggested that for measures defined as 'green', the strict EU Taxonomy criteria should be set as a standard.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The government passed a €641m supplementary budget that was used to enable general support measures for individuals and entities hit by the crisis. The more prominent cases of state support include €20m in support for international passenger ferry operators operating out of Estonia, and €30m for a share capital increase and subsidized interest loan to the state-owned aviation company Nordica.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

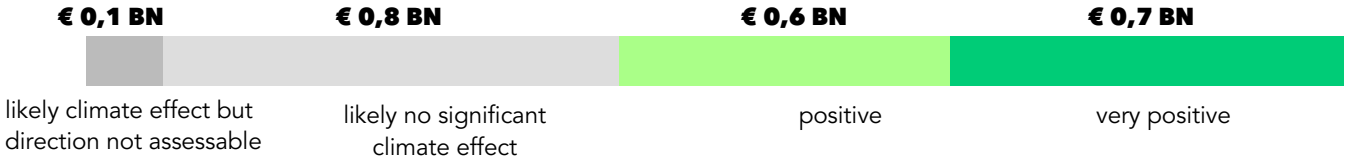
Sector	**Most important measures with effect on green transition**
Energy	• Investments into energy grid, storage and renewables (€45m, very positive) • Pilot projects for green hydrogen (€50m, very positive)
Mobility	• Rohuküla railway construction (€34m, very positive) • Rail Baltic terminal construction (€31m, likely climate effect but direction not assessable) • Tallinn Old Port tram line construction (€26m, very positive)
Industry	• Green fund for companies' green transition investments (€100m, very positive) • Support for increasing the export capacity of enterprises (€33m, negative) • Support for more effective use of bioresources (€38m, likely climate effect but direction not assessable)
Buildings	• Increasing energy efficiency of buildings (€47m, very positive)

This report was written by Silver Sillak and Uku Lilleväli (Friends of the Earth Estonia - Estonian Green Movement) and Felix Heilmann (E3G). We are grateful to the Estonian Fund for Nature and to Magdolna Prantner (Wuppertal Institute) for providing valuable inputs.

Last update: 14/06/2021

GREEN RECOVERY TRACKER REPORT: FINLAND

Finland's final Recovery and Resilience Plan (RRP) was presented by the Ministry of Finance on May 26, 2021 after prolonged discussions with the Commission. The most considerable changes to the first draft were the details on the milestones and the targets of the plan, as well as the selection criteria for funded projects. The plan is part of a larger Green Growth Programme in the context of Finland's 2035 carbon neutrality target, that also includes measures additional to the RRP. The expected total sum to be received through the EU Recovery and Resilience Facility (RRF) is €2.1bn, roughly 1 % of Finland's GDP. This report summarizes of the climate implications of the RRP and its contributions to the green transition. Due to the structure of the RRP, case-by-case analysis was not practical for some investments and thus they were analysed at an aggregate level. Overall, Finland's recovery measures have the potential to make a very positive contribution to the green transition, as our analysis identifies the following spending shares:



In focus: Green Spending Share

We find that Finland's draft recovery plan (RRP) achieves a green spending share of 42%, above the EU's 37% benchmark. Furthermore, we find that 5% (€0.1bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. According to the government, the plan's climate spending share is 50%. The divergence between these assessments can likely be explained by the fact that we were forced to assess wider components instead of individual measures in some cases due to missing information, which has led to less positive overall assessments.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

The RRP, which is embedded in the Green Growth Program, aims to enhance green growth in accordance with the government's political priorities: cutting emissions, increasing productivity and employment, and improving health care services and social equality. The programme is divided into four pillars: 1.) Green transition €825m, 2.) Digitalization €234m 3.) Employment and competence €636m, 4.) Social and healthcare services €400m, the first of which addresses climate issues head on, but the matter is integral to the second and the third one as well.

The RRP builds on a comprehensive approach to the long-term climate transformation of the society, supported by previously created sectoral low carbon roadmaps. Notable investment packages include €316m for upgrading energy infrastructure, €326m for industries to develop e.g. the hydrogen infrastructure and circular economy, €110m for reducing the environmental footprint of built environment and €85m for digitising the railway network. The measures that are reactive directly to the COVID pandemic focus mostly on welfare considerations (e.g. relief for the burdened health care system), but for example investments in building a fast internet access throughout the country and the consequent facilitation of remote work have potential for climate impacts.

The caveat of the plan's breadth is that it risks fragmentation and the consequent loss of effectiveness, thus calling for effective allocation processes. However, it is stated in the plan that it has been prepared in coordination with the ongoing climate policy work and the legislative framework and the responsible institutions for the investment allocation have been identified. Most of the projects will be funded on a condition of being 100 % climate-friendly, selected based on the criteria found in the official DNSH guidance document 2021/C 58/01. [1] The most ambiguous part of the plan may be the additionality of its measures: In many cases it is not clearly communicated, which measures are being introduced as added contributions.

The RRP is to be implemented over the period 2021-2026. Execution of the reforms planned relies on the other elements in the Finnish climate policy framework and further details for investment allocation are to be decided in the upcoming budgets – supplementary budgets for 2021 and annual budgets for 2022-2026. A governmental monitoring group is set to track the effectiveness of the measures, although the indicators to be used are unclear at this stage.

[1] EUR-Lex (2021). Commission Notice Technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation 2021/C 58/01.

GREEN RECOVERY TRACKER

OUR HIGHLIGHTS

Good Practice

Clearly achieving the 37 % EU requirement

The plan takes a wholistic approach to a long-term climate transformation and the funding is allocated on a wide spectrum, and our analysis confirms that it will likely exceed the EU's 37% requirement on climate spending. In addition to sectors such as energy, buildings and mobility, the plan covers education, RDI and digitalization – all of which play an important role in the green transition.

Bad Practice

Not much support for the natural environment and biodiversity

The national criteria for green recovery that were established in summer 2020 emphasized the importance of finding and using the synergies between climate change mitigation, adaptation, and enhancing biodiversity. Intentions to improve the condition of natural environment are expressed in the RRP and some the positive synergies are captured in the promotion of circular economy, but these issues do not receive significant investments. Planned direct investments to one of the sectors most relevant for the topic, the land use sector, remain relatively small at €30m.

To Our Surprise

Small role of the bioeconomy

Bioeconomy plays an important role in Finland's economy due to the forest industry being among the largest in the country. Becoming a leader in bio-products is highlighted as a target in the RRP but in light of this the planned investments of overall €30m are surprisingly little. Bio-products are also mentioned as one of the RDI investment candidates, but there are no further details on direct funding.

KEEP AN EYE ON...

- **… links between the recovery plan and other climate policy efforts.** The RRP is quite well positioned in the national climate policy framework and follows the principles set in the Government Programme. Finland is aiming for carbon neutrality by 2035 and based on

this and other set targets, strategic and executive work has already been conducted, while much is still in the pipeline. The existing work that was considered in the RRP include, for example, the Sectoral Low-carbon Roadmaps[i], the Strategic Programme to Promote a Circular Economy[ii] and the Roadmap to Sustainable Taxation[iii]. Revisions and reforms of the Climate Change Act[iv] (i.e. the climate law), the Medium-term Climate Change Policy Plan[v] and the Climate and Energy Strategy[vi] are set to be finalized during 2021 and the RRP was coordinated with these processes. Coal phase-out in energy production had already been set to be completed by 2029, but the RRP adds a milestone: 40-80% reduction in energy usage by 2026.

> **… how the plan fits in the context of EU policy.** The RRP recognizes relevant EU flagship projects, and its first pillar matches the ambitions of the European Green Deal. The country specific recommendations for 2019 and 2020 given by the European Commission were used as a basis for the plan. More specifically, the plan has been prepared in accordance with the climate related recommendations such as to 'focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, sustainable and efficient infrastructure as well as research and innovation'. Another recommendation that stands out in the measures is giving support to SMEs. SMEs are mentioned as one of the primary recipients of the funding.

> **… the additionality of planned measures.** The greatest ambiguity of the RRP may lie in the additionality of its measures. Although it is clearly communicated which existing and upcoming policies and strategies are relevant for implementing the plan, in most cases it is rather unclear which measures and investments the plan leaves unchanged, which get additional funding from the RRF, and which are being introduced as added contributions to the policy framework. However, it is stated in the RRP that the overall national expenditure will increase during 2021-2026 – with or without the RRF.

> **… the attempt to give a concrete emission reduction potential.** The government has stated that the implementation of the plan is expected to result to emission cuts of 3 Mt, approximately 6% of Finland's total emissions. [vii] This estimate is based on the Sectoral Low-carbon Roadmaps[viii] that have been published in summer 2020. These roadmaps included emission cut potentials within each sector, thus enabling rough estimates for the impact of the plan.

> **… 'Do No Significant Harm' being a guiding principle.** Just as the 'greenness' of measures has been described in the plan, the same goes for 'Do No Significant Harm' principle (DNSH) and how it shows in each group of measures. Notably, it is one of the guiding principles and a condition for getting the investments allocated to a project, as projects will be selected based on the criteria found in the official DNSH guidance document 2021/C 58/01. It is highlighted that 100 % of the RDI investments in the RRP are based on DNSH.

> **… the stakeholder participation.** The recovery planning process in Finland has been relatively transparent and open. An independent working group was established by the Finnish Environment Minister in the spring of 2020 to establish criteria for green recovery and the allocation of RRF funds. These criteria were used as a basis for the RRP, and its preparation included hearings of businesses, labour unions and other stakeholders from around the country on various occasions. Stakeholder events have also been arranged for feedback prior to and after publishing the draft plan. For example, based on this feedback, the focus of the plan was narrowed down from six to four main pillars. After the publication of the draft plan much of the discussion has dealt with the practical implications of DNSH on the industrial use of biomass, among other topics.

OVERVIEW: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Energy infrastructure (€155m, positive) • Introduction of new energy technologies (€161m, very positive)
Mobility	• Public transport charging and gas refuelling infrastructure (€20m, likely climate effect but direction not assessable) • Support for private charging infrastructure (€20m, very positive)
Industry	• Low-carbon hydrogen and carbon capture and utilisation in industry (€156m, positive) • Direct electrification and decarbonisation of industrial processes (€60m, very positive) • Investments to promote the reuse and recycling of key materials and industrial side streams (€110m), of which €30 million for the bioeconomy and €30 million for circular economy solutions in the battery sector (very positive)
Buildings	• Support the replacement of building heating systems from fossil oil to low-carbon energy efficient heating (€70m, very positive)

	• Investment programme for solving climate change challenges in the real estate and construction sector (Climate-KIRADIGI) (€40m, very positive)
Agriculture	• Field gypsum treatment and nutrient recycling (€20m, positive) • Climate measures in the land use sector (€10m, positive)
Cross-cutting	• RDI funding package for a green transition (€192m, very positive) • Investment in research infrastructures and R&D and testing environments for sustainable growth and digitalisation (€75m, positive)

This report was written by Rasmus Sihvonen (The Finnish Innovation Fund Sitra) and Felix Heilmann (E3G). We are grateful to Oras Tynkkynen, Tatu Leinonen and Antonios Sfakiotakis (The Finnish Innovation Fund Sitra) as well as Jacqueline Klingen and Helena Mölter (both Wuppertal Institute) for providing valuable inputs.

References

[i] Ministry of Economic Affairs and Employment (n.d.). Low-carbon roadmaps 2035.
[ii] Ministry of the Environment (n.d.). Strategic programme to promote a circular economy.
[iii] Prime Minister's Office (2020). Kestävän verotuksen tiekartta.
[iv] Ministry of the Environment (n.d.). Reform of the Climate Change Act.
[v] Ministry of the Environment (n.d.). Medium-term climate change policy plan.
[vi] Ministry of Economic Affairs and Employment (n.d.). Energy and climate strategy.
[vii] Ministry of Finance (2021). Finland to use EU funding to boost investment and accelerate emissions reduction.
[viii] Ministry of Economic Affairs and Employment (n.d.). Low-carbon roadmaps 2035.

GREEN RECOVERY TRACKER REPORT: FRANCE

The French government presented 'France Relance', a large €100bn recovery package drawing on funding from both the domestic and EU budget, in September 2020.[1] In April 2021, France's finance minister Le Maire presented the final €40bn national Recovery and Resilience Plan (RRP)[2], which finances the national 'France Relance' package. The EU recovery facility thus provides 40% of the funding for the French recovery plan. Overall, French recovery measures make a moderate contribution to the green transition, as our analysis identifies the following spending shares:

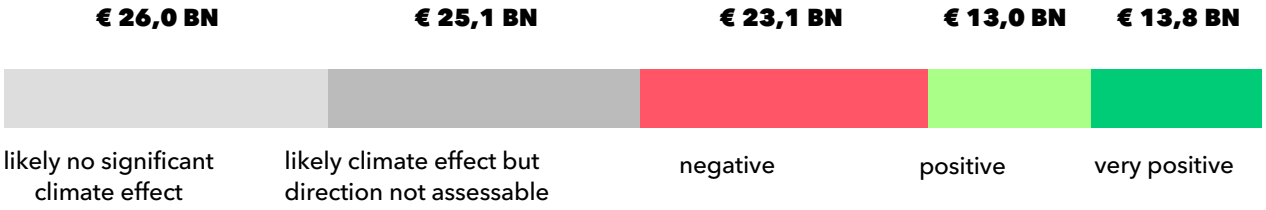


Figure 2: Amounts committed by assessment category (all recovery measures)

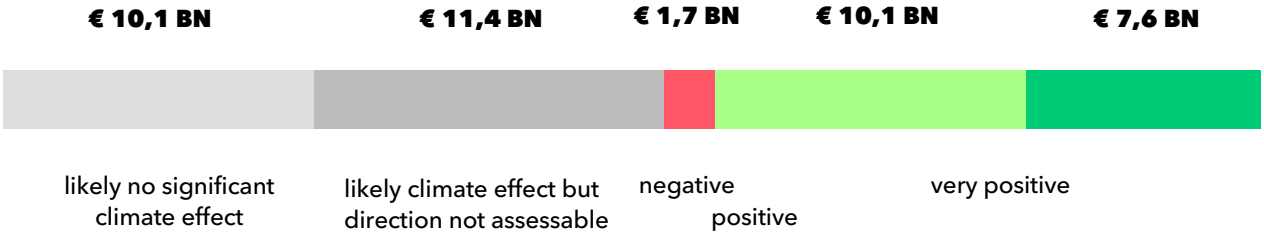


Figure 1 Amounts committed by assessment category (only measures included in Recovery and Resilience Plan)

The recovery effort of the government covers three areas: Ecology, Competitiveness and social and territorial cohesion. Especially the measures under the ecologic thread can be mostly indicated as 'green'. The overall vision of the recovery package can be described as future-oriented and aiming for an ecologic transition.

In focus: Green Spending Share

We find that the measures in the domestic French recovery package overall achieve a green spending share of 19%. The analysis of the RRP in the context of the EU Recovery Facility shows a green spending share of 29%, below the EU's 37% benchmark. According to the government, the plan's climate spending share is 50%, whereas the EU Commission has conceded 46% climate spending (see page 7 for more details). In contrast, 23% (€23.1bn) of all measures have a negative impact. Furthermore, we find that 25% (€24.8bn) of all measures may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to the green transition (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Promoting behavioral change in the mobility sector

France is embedding several measures in the mobility sector which aim to promote a behavioral change, for example supporting daily mobility with public transport projects and improving and increasing the rail offer.

Bad Practice

Tax reductions without climate conditionalities

The government lowered production taxes (€20bn for two years), a measure that will continue after Covid-19 (i.e. as a €10bn/year cut). This measure did not initially include climate conditionalities, thus the issue was debated in the parliament following the publication of the plan. This led to an amendment with new obligations in terms of the environment, parity and social dialogue. However, companies will not be penalized if they fail to meet these obligations.

To Our Surprise

No support for renewable energy production

While renewable energy consumption will be boosted by a number of measures, (e.g. dedicated to hydrogen, transport or decarbonisation of industry) there is no support for renewable energy production foreseen.

GENERAL CONTEXT

Before the crisis, the political debate in France was dominated by social, economic and environmental issues. The Yellow Vest protests erupted in October 2018 over the rise of the carbon tax combined with oil prices being over $80 on international market turned into a revolt over living standards and sparked a "Grand Debat National" (a three-month exercise which took place from January to April 2019) which found that a majority of the French population were in favor of tax reforms such as lower tax income or the fact that inflation must be taken into account when making the calculation of small pensions.

Another challenge in France lies in addressing unemployment and reducing public debt and fiscal pressure, which led to proposed reforms to unemployment insurance and the pension system. While these topics were put on hold during the Yellow Vest movement and the Covid-19 crisis, Emmanuel Macron is trying to carry out these reforms before the end of his mandate. In addition, there is a recurring debate in France around "degrowth" which crops up in many political debates. Security matters are a recurring issue which has constantly appeared in political debates in various forms (immigration, police brutality…). President Macron has faced public criticism in tackling all of these challenges, including through regular strikes and street protests. Public opinion on President Macron was at an all-time low at the end of 2018 after the

Yellow Vest protests started, although it has steadily increased since making him having a higher confidence rate than both François Hollande and Nicolas Sarkozy one year prior to the end of their mandate. Furthermore, it is important to say that another discussion came up in 2018-2019, when Macron cancelled certain taxes against the "ultra-rich" (e.g. "exit tax") but then taxed the poorest (via e.g. the carbon tax).

Climate action has been high on the political agenda, with France seen as a champion on climate in the EU by other member states. In 2021, I4CE[3] published a report analysing France's spending for climate in the last decade: In ten years, the spending for climate has considerably increased (from €15 to €30 millions a year, from 0.7% to 1,3% of the GDP). Moreover, the study also mentions that this budget should still increase in order to cover all the reforms necessary to decarbonise the economy. It also highlights the fact that further reforms are needed to include everyone in this transition as climate policies should ensure affordable alternatives for everyone.

In the last years, political debates focused on reduced dependence on nuclear (from 70% to 50 of its electricity mix by 2035), renewables expansion (with both offshore and onshore wind turbine being subject to heated/hysterical debates), the restructuration of French energy company EDF, building renovations and oil boiler conversions, a coal phase-out by 2022, financial aid for electric vehicles, as well as the agro-ecological transition and green public budgeting after France pioneered corporate and investor disclosures. In addition, France set out the creation of a "High Council for Climate" in mid-2019 and launched a "Citizens' Convention for Climate" in late 2019 stemming from the "Grand Débat National".

Context indicators[4]	**France**	**EU average**
GDP (2019)	**2419 bn €**	
GDP (per capita, 2019)	**41767 €**	**31130 €**
Debt (% of GDP, 2019Q4)	**98.1 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**116.5 %**	**89.8 %**
Unemployment Rate (December 2019)	**8.6 %**	**6.5 %**
Unemployment Rate (August 2020)	**9.0 %**	**7.7 %**
Unemployment Rate (December 2020)	**8.9 %**	**7.5 %**

Real GDP forecast for 2020[5]	**- 9 %**	**- 8.3 %**
Real GDP forecast for 2021[6]	**+ 5 %**	**+ 5.8 %**
Total recovery spending	**100 bn €**	
EU recovery funding (grants only, provisional)	**39.4 bn €**	

KEY FOCUS AREAS OF THE FRENCH RECOVERY DEBATE AND THE RECOVERY PACKAGE

The framing for the recovery package was laid out by Prime Minister Jean Castex on 3rd September 2020 after President Macron announced a recovery plan in a speech on Bastille Day (14 July 2020). The government's announced priorities were to "maintain jobs" as a priority and "create jobs for young people" with "massive investments" in training. Another priority was to "support domestic industry and services", highlighting the over-dependence on imports. Prime Minister Castex also talked about "green growth" and tackling climate change. He also stressed that pension reforms were necessary but would be negotiated in the future. The NRRP which was published on 27th of April 2021 follows those priorities.

The political debate on the response and recovery measures in advance of the government's announcement first focused on support for struggling businesses and low-income households. The debate then expanded to improving industrial competitiveness, diversifying supply chains, relocalising strategic production centres and turning the ecological transition into a lever of the recovery. The debate also focused on the extent to which different sectors and major companies should receive support, with President Macron announcing his intention to rebuild French agricultural, health, industrial and technological independence. Moreover, erasing the debt from the Covid-19 pandemic crisis was also highly discussed among French economists but the government ruled it out from the beginning.

Within the field of economic expertise, the debate was among others on a disagreement whether it was acceptable to let companies with a fossil-fuel economic model go bankrupt during the pandemic ("good riddance") or whether they should be bailed out, protect their jobs and be transformed over several years. The second stance was mostly adopted, on the basis that it was unacceptable to see thousands of job losses during a crisis year.

With an announced budget of €100bn over two years (2021-2022), the recovery package is on par with what most observers expected, though the climate community criticises that the

measures are mostly calibrated on the second carbon budget of the national low-carbon strategy, which is a rather timid first step towards France's GHG mitigation ambition since it commits to just a 40% emissions reduction by 2030 (instead of the new EU target of 55% emissions reduction by 2020).

The objectives are to bring economic activity back to its pre-crisis level in two years, and by doing so lowering unemployment rates and improving competitiveness. The government plans to finance 40% of the recovery plan through the EU budget. During the parliamentary debates on the 2021 budget, members of the parliament were divided over how to achieve the goal of a green transition and spent hours debating the green strings that should be attached to state aid from the recovery plan. The "ecological transition" (including biodiversity, climate and environmental pollution) is one of the three key pillars of the plan, with €30bn earmarked for greening the economy, which was raised from an initial €20bn announced in the summer, after the government faced backlash from environmental groups.

The package's three pillars are:

- Ecology: €30bn public investment programme to help France meet its climate goals through a series of support measures for green sectors
- Competitiveness: a €20bn tax cut for French companies which, almost uniquely in Europe, have to pay levies according to the value added in their production on top of social charges and corporation tax
- Cohesion: €35bn is being earmarked for social and regional cohesion, the lion's share going to job protection, vocational training, apprenticeships and hiring subsidies

From a green transition perspective, the most controversial issue relates to the lack of conditionality on lower production taxes in the recovery plan and on the €15bn in financial aid that was provided to the automotive and aerospace industry in the summer. In addition, the exceptional car conversion bonus implemented in the summer remained eligible for fossil fuel cars.

The recovery plan was also criticised for a lack of resources mobilised for renewable energy, instead focusing on a moderate level of support for nuclear energy and substantial support for hydrogen, including non-renewable forms. [7] The credibility of green investments has been questioned given the lack of conditionalities and the lack of visibility regarding the additionality of investments and their continuity after the two years of implementation.

GREEN RECOVERY TRACKER

FINANCING AND ADDITIONALITY OF FRANCE'S RECOVERY PACKAGE

The government anticipates that it will take on €345bn in new debts in 2020, and a further €282bn in 2021, to finance its crisis response and recovery measures. The recovery plan 'France Relance' (€100bn) calculates with about €40bn from the EU recovery package. A large part of this EU money flows into projects labelled under the category "ecological": According to our analysis, the French recovery package across all measures is reaching a green spending share of 19%, whereas the RRP is reaching a green spending share of 29%. This suggests that especially 'green' measures are financed through the EU Recovery Facility in order to fulfil the target of 37% investments in the climate transition. According to the government, the RRP's climate spending share is 50% whereas the European Commission conceded 46% climate spending arguing that the plan mostly follows the methodology for climate tracking. This deviation between our numbers and official numbers can be explained by methodological differences, including the fact that our methodology only considers climate mitigation and not adaptation effects. But the key reason for this divergence is that, based on our methodology, we only provide the 'positive' 40% climate coefficient to some measures which the government seemingly fully calculates into the climate spending share.

The recovery package lacks additionality of investments compared to existing measures and previous announcements made by the French government: About 25% of the measures included in the recovery budget were already announced before Covid-19. So, the additional domestic funding which has been mobilised by the French government is just about 35% of the package (equivalent to around €35bn). Questions also remain on how the continuity of investments will be ensured after the 2-year period of implementation and whether the package will represent a sustained and increased effort.

GOVERNANCE OF THE RECOVERY PACKAGE

The 'France Relance' recovery package contains 'green' indicators under some measures, but these are only in a few cases (e.g. on the decarbonization of industry) backed by specific targets. In addition, the recovery package does not include a specific governance for the achievement of climate-related goals. Though, the consistency of measures under the NRRP with the territorial just transition plan and the energy-climate plan, and participation in achieving the 2030 climate objectives and the 2050 climate neutrality objective is explored. Moreover, there is a dedicated "follow-up" committee ('comité de suivi') which will define implementation and impact indicators to monitor each measure, in which NGOs are invited to

comment along with other stakeholders.[8] But it is unclear how much coordination this committee will achieve.

However, the green measures stem from the national low-carbon strategy or 'Strategie Nationale Bas-Carbone' which is backed by evaluations (albeit against "normal" economic conditions) and contains a vast set of indicators to assess whether the economy as a whole is progressing towards emission reductions.[9] Each measure is therefore implemented within the existing sectoral framework of performance assessment. In addition, French climate legislation is supported by an extensive governance system, including through a High Council for Climate (HCC) and an Ecological Defense Council. There is potential for these to play a role in the climate governance of the recovery package.

The HCC published a report in December 2020[10] which is challenging the government's assessment by taking a more stringent definition of what constitutes climate-friendly spending, thus reducing the share of the recovery plan dedicated to climate objectives:
More specifically, the HCC is reacting to the government's own climate spending assessment, which was published in September 2020 along with the budget bill. That assessment was led by the Inspection Générale des finances (IGF), a team within the Ministry of finance. While the national budget bill draft issued by the government ("projet de loi de finances" (PLF)) claims that €30.6bn are "climate favorable" and €69.6bn are "climate neutral", the HCC however, comes to the conclusion that €27.7bn are "climate favorable" and €70.4bn are "status-quo" (the remaining €2.1bn are uncertain). The HCC argues that there is no "neutral" spending and moreover, "status-quo" spending, although not fossil, could still create lock-in and following this argumentation, HCC is calling for a more stringent definition of what constitutes climate-friendly spending.

Moreover, the way how the do-no-significant-harm'-principle was examined in the RRP is very descriptive and detailed in comparison to plans of other states: Each measure is broken down in detail and explicitly with regard to the 'do-no-significant-harm'-principle taking into account the effect on climate mitigation, climate adaptation, water, waste, pollution and biodiversity. It is indicated whether there is a positive, neutral or negative impact.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

In March 2020, France announced in response to the hard lock-down of the economy €45bn in direct tax breaks and direct state payments for the country's businesses in addition to €300bn of loans. At least €21.1bn in public financial support for sectors which have a direct impact on

GHG emissions had been adopted in the first months of the crisis. This does not include the €20bn in recovery funding for the ecological transition announced by the French Prime Minister in July 2020.

Direct support measures for sectors which are key to the energy transition amounted to €3.3bn. These cover the reinforcement of the ecological bonus for electric or plug-in hybrid vehicles, financial support for the pilot plant for the manufacture of electric batteries, a bicycle plan, support for R&D for a carbon-neutral plane and an increase in the allocation to support local investment in the fields of energy transition and health.[11] In contrast to support for fossil fuel-intensive sectors, energy transition support measures are based solely on direct investment and subsidies.

The larger share of the public financial aid has gone to high-emission sectors, amounting to €17.8bn. Almost 75% of this aid is in the form of guaranteed loans or cash advances. This is particularly the case for the €7bn in state-guaranteed loans and cash advances for Air France-KLM. A share of 17% are green measures that are needed for research and development of greener airplanes as well as for the diversification, modernisation and green transformation of assembly lines. Moreover, an €8bn bailout was put forward for the auto industry including €5bn in state-guaranteed loans for Renault and other support measures for the automotive industry (including a conversion bonus to which some internal combustion vehicles are eligible), or the postponement of the withdrawal of tax breaks for non-road diesel. The loans have three conditions: the companies must commit to increasing their focus on electric cars; they must "respect" their subcontractors; and they must relocalise "technologically advanced" activities to France.

Out of this €17.8bn, €13.8bn is conditional on environmental requirements. Yet what these conditions imply more concretely has not been announced and these requirements remain very vague: they do not include legally binding commitments and most of them are insufficiently detailed. For example, the Air France-KLM rescue plan includes the reduction of short-haul domestic flights on routes where rail alternatives exist, but specific goals have not yet been published. The Minister of Finance, Bruno Le Maire, has underlined that all state aid to companies must be oriented towards decarbonizing the French economy and improving its competitiveness. Public debate has concentrated mostly on the latter.[12]

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- A permanent cut of the production taxes (€20bn), which we assess as negative as such generalised incentives granted without any binding environmental or social conditionality could support the recovery of environmentally harmful activities.

- A number of measures to support the building sector, e.g. renovation of public buildings (€4 bn), energy retrofits of private buildings (€2bn) and energy renovation and heavy rehabilitation of social housing (€0.5bn), which we assess as positive. Most of those measures include indicators such as reductions in energy consumption and greenhouse gas emissions, but however, there is limited clarity on the metrics that would be used to monitor depth of renovation achieved, and the level of energy savings or emission reduction the programme as a whole aims to achieve. This makes it difficult to assess the degree how the measures will contribute towards France's targets of 30% reduction in energy consumption in the buildings sector, and 40% reduction in the tertiary sector by 2030.

- €4.7bn earmarked for the development of the rail industry and €1.2bn to support daily mobility which we assess as very positive since this could help accelerate the transition in the transport sector, the largest source of emissions in France.

- A Future Investments Program: Innovating for the Green Transition (€3.4bn) which will support green innovation projects selected through competitive procedures, that can be carried out by companies, laboratories, communities, often in collaboration with each other. The clear green focus of the programme as well as the inclusion of an indicator of tons of CO2 saved leads us to a very positive assessment.

- A package on the decarbonization of industry (€1.2bn) that aims to improve energy efficiency, improve manufacturing processes, particularly through electrification, and decarbonize heat production. We see this a very positive measure as the objective is to support the sites identified as the highest emitters (particularly in the cement or oil and gas sectors or metallurgy) in order to significantly and rapidly reduce French greenhouse gas emissions. Moreover, clear emission reduction targets are set.

- Developing a low-carbon hydrogen industry in France (€2bn), which we assess as positive as the strategy is committed to low-carbon hydrogen. Low-carbon hydrogen means here that it is produced by either renewables or nuclear energy. Thus, the mitigation effect of low-carbon hydrogen will be counted in total positively, but not as very positive (which we assess for 100% green hydrogen only, which means hydrogen produced from renewables only).

- "New Climat products from Bpifrance"[a] (€2.5bn) aims to support the emergence and growth of greentechs, i.e. any solution, mainly technological, that allows to fight against global warming, water, air and soil pollution and contributes to the preservation of natural resources. Saved emissions are being tracked. We assess this measure as very positive, though Bbifrance itself is still supporting gas and oil projects across the world.[13]

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Partial activity (€6.6bn) was the Government's response to support employees and employers during the containment period. After a reform in March, aimed at moving from a flat-rate approach to a proportional approach, partial activity is now being adapted to the stimulus package to give employees and employers greater visibility.

- A health investment plan (€6bn) over 3-5 years to finance structural investment priorities in the health and medico-social sectors as well as in the digital health sector.

- Support for local authorities (€4.1bn) which aims both to support the operating revenues of communities faced with the consequences of the crisis and to contribute to their investments.

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

A number of climate strategies were published during the crisis. The key summary of the national low-carbon strategy 'Stratégie Nationale Bas-Carbone' published in April 2020 acts as a climate neutrality roadmap which will be renewed every five years. The Citizen's Convention for Climate published 149 proposals in June 2020. President Macron initially backed almost all

[a] Bpifrance is a French investment bank set up as a joint venture of two public entities.

of the proposals, some of which involve substantial investments and subsidies but would also generate new tax revenues. The tax proposal on corporate dividends, and the speed reduction on highways are one of those which were rejected by Macron. Furthermore, he is now rolling back on the measures and received calls in October 2020 to reaffirm his commitment. Moreover, the senate is currently discussing the 'Loi Climat' (Climate law) which was a big disappointment for green activists as they hoped that Macron would do more. However, some of the ambitions have been lowered. The HCC and 'Le Conseil Economique, social et environmental' argue that the 'Loi Climat' is not aligned with the Paris Agreement targets.

It is also worth mentioning that in October2020, Economy Minister Le Maire has announced a Climate plan for public export financing ('Plan climat pour les financements export publics'). However, the plan was met with criticism from NGOs as the plan still allows for the financing of international oil projects for another 15 years, which is seen as irresponsible and incoherent with the Paris Agreement targets[14].

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Developing a low carbon hydrogen industry in France. (€2bn, positive - RRP) • Support for the nuclear sector (€0.2bn, negative) • Modernization of waste sorting, recycling and recovery centers (€0.27bn, positive -RRP)
Mobility	• Everyday mobility: developing a bicycle plan and public transportation projects (€1.2bn, very positive - RRP) • Implementation of a support plan for the railway sector (€4.7bn, very positive - RRP) • Help with the purchase of a clean vehicle as part of the automobile plan (bonus, CAP, top-ups) (€1.9bn, positive -RRP)
Industry	• Decarbonisation of industry (€1.2bn, very positive - RRP) • Lower production taxes (€20bn, negative) • Strengthening the equity capital of VSE/SMEs and ETIs (€3bn, likely climate effect but direction not assessable)

	Furthermore, there are significant overlaps with measures in other sectors (e.g. hydrogen projects, transformation of the automotive industry)
Buildings	• Energy retrofit of private buildings (€2bn, positive - RRP) • Renovation of public buildings (€4bn, positive- RRP) • Ecological transition and energy renovation for VSE/SMEs (€2bn, positive - RRP)
Agriculture	• Accelerate the agro-ecological transition to a healthy, safe, sustainable, local and quality food for all. (€0.4bn, very positive)
Cross-cutting	• Future Investments Program: Innovating for the ecological Transition (€3.4bn, very positive – partly RRP)

This report was written by Helena Mölter (Wuppertal Institute) and Sara Dethier (E3G). We are grateful to Hadrien Hainaut (I4CE), Phuc Vinh Nguyen (Jacques Delors Institute), Claire Godet and Felix Heilmann (both E3G) for providing valuable inputs.

REFERENCES

[1] Government of France (2020). France Relance *[While the official documents of "France Relance" claim that the plan is worth €100 bn, the sum of all added measures is €93.4 bn]*
[2] Summary of Recovery and Resilience Plan (2021)
[3] I4CE (2021): Climat : retour sur 10 ans de dépenses de l'État. France
[4] Eurostat; European Commission (2020). European Economic Forecast Summer 2020; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[5] Banque France (2020): Macroeconomic projections – December 2020
[6] Banque France (2020): Macroeconomic projections – December 2020
[7] RAC (2020). Un plan de relance vert pâle
[8] Economy and Finace Ministry (2020). Bruno Le Maire a présidé la première réunion du Comité de pilotage du plan de relance
[9] Observatoire Cllimat-Énergie (2020). Où en est la France?
[10] HCC (2020): France Relance: Quelle contribution A La Transition Bas-Carbone (2020). Rapport. France
[11] I4CE (2020). France: €18bn for fossil fuels energy since the beginning of the crisis
[12] See also Energy Policy Tracker (2020). France
[13] Reseau Action Climat (2020). La France Face A L'Incoherence de Ses Financements Publics. France
[14] Liberation (2020). Climat: la France subventionne toujours plus les énergies fossiles. France

GREEN RECOVERY TRACKER REPORT: GERMANY

In June 2020, Germany was the first EU country to present a large recovery package (€130bn). This was supplemented by additional measures for the mobility sector agreed in November 2020[1]. In April 2021, the German government presented its official Recovery and Resilience Plan (RRP) for the use of funds from the EU Recovery and Resilience Facility (RRF). Notably, large parts of the RRP cross-finance measures that were already announced as part of the domestic package, so that altogether, Germany's recovery measures add up to €140.3bn (4% of domestic GDP). Our analysis covers all of these packages. Overall, Germany's recovery measures make a moderate contribution to the green transition, as our analysis identifies the following spending shares:

Figure 1: Amounts committed by assessment category (all recovery measures)

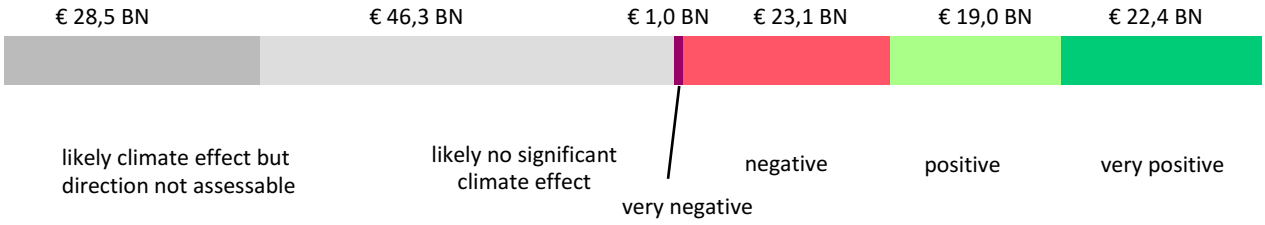
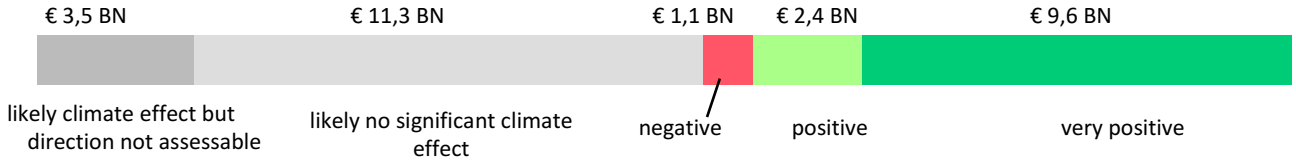


Figure 2: Amounts committed by assessment category (only measures included in Recovery and Resilience Plan)



Altogether, Germany's recovery measures unlock some necessary progress, especially in the energy sector, but are not fully transformative. Measures for the mobility sector are particularly ambiguous: while the politically influential automotive industry did not succeed with its calls for a general purchase premium for new vehicles, the agreed measures are not fully supportive of the green transition, as, for instance, plug-in hybrid vehicles and trucks with internal combustion engines are still being supported. At the same time, the government used the recovery debate to intensify planning processes for the transition of regions that are currently dependent on the traditional automotive industry.

The Recovery and Resilience Plan's lack of additional ambition beyond previously agreed measures is concerning. Our analysis shows that, instead of enabling additional projects, RRP measures cross-finance existing measures to a large extent. Only about one third of the RRP's funding is used for new measures, especially for cross-border projects. The lack of additionality has been criticized, among others, by the trade union DGB[2] and all major environmental organisations[3]. Moreover, the German government itself has called for coupling funding from the EU Recovery and Resilience Facility to countries' commitments to reforms. However, the German draft RRP has been criticized by the European Commission for not delivering sufficiently ambitious reforms.[4] Lastly, civil society actors have also criticized a lack of public participation in the development process of the RRP.[5]

In focus: Green Spending Share

We find that Germany's recovery plan (RRP) achieves a green spending share of 38%, above the EU's 37% benchmark. However, when assessing all recovery measures including those only included in the domestic recovery package from June 2020, Germany reaches a green spending share of just 21%.

In contrast, 17% (€24.1bn) of all measures have a negative impact. Furthermore, we find that 20% (€28.5bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. Notably, the RRP carries over a high share of the green measures that were previously spelled out in the domestic recovery package and does not substantively increase the share or amount of green recovery spending.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Little direct support for fossil industries

Germany's recovery package does include little direct support measures for fossil fuel industries, even though the traditionally powerful car lobby had mobilized to achieve an unconditional support for new car purchases. However, there are some exceptions to this, as the package provides support for gas engines in shipping and new airplane purchases, as well as for plug-in hybrid vehicles.

Bad Practice

Weak governance and strategic ambition

Germany's measures are largely not linked to any concrete long-term targets or (climate) conditions, which creates a significant risk of investments appearing green but ultimately not contributing to the green transition. Our analysis also shows that funds from the EU Recovery Facility are mostly not used to enable additional transformative measures.

To Our Surprise

Little focus on tried and tested technology

The German government decided to spend significant funds on hydrogen (€10.5bn) while investing relatively less in green recovery solutions that are already available at scale and capable of creating many jobs even within short time frames, such as energy efficiency measures (which only receive €2.5bn in funding).

GENERAL CONTEXT

Before the crisis, the political discourse in Germany was dominated by calls for more ambitious climate action and disagreements between the governing parties over social policy, e.g. a pension scheme for low income retirees. Overall, the political atmosphere was dominated by uncertainty over whether the governing "Grand Coalition" of Conservatives and Social Democrats was able to tackle the main challenges facing the country.

The rise of climate action to a prominent place on the political agenda was the result of large-scale protests such as the "Fridays for Future" strikes as well as increasingly visible climate impacts. In September 2019, the government presented a "Climate Package" which was widely perceived as insufficient. Within the

realm of climate policy, recent political debates have focused on the implementation of the recommendations of an independent commission for the coal phase-out, the role of fossil gas and hydrogen in the transition, the transformation of the automotive sector as well as on the stalling expansion of renewables in recent years.

The Covid-19 crisis has united the previously fragmented coalition government, but also large parts of the opposition, around the need to respond decisively. The government agreed a €600bn economic stabilization fund very early in the crisis (March 25th) and used its early presentation of a recovery package on June 4th to convey a sense of optimism, stating that the country can exit the crisis with a "ka-woom" (Finance Minister Scholz). Notably, to make these packages possible, it broke its longstanding commitment to not take on new debts. During the second Covid-19 wave, it mobilized additional support measures for businesses, parents, artists and others affected by the crisis.

On December 16th, 2020, the government agreed on the draft German Recovery and Resilience Plan, covering measures that are financed from the EU Recovery and Resilience Facility. The final RRP was released in a joint Franco-German press conference on April 27th, 2021. Relative to the draft, the final RRP includes significantly more detailled elaborations on the government's plans, and some slight adjustments to individual funding allocations. Most notably, €1bn in planned support for the purchase of new trucks was removed from the RRP, a measure that may have been at odds with the European "Do No Significant Harm" principle. It is highly likely that the measure will still be implemented, however, receiving funding through the domestic budget instead. The process for the development of the RRP has been criticized by various stakeholders, as both trade unions and environmental organizations voiced concerns about a lacking involvement of and participation opportunities for civil society actors in the drafting process.

From a green transition perspective, the most controversial discussion in the context of the domestic recovery package focused on the question of whether a purchase premium for all new cars should be introduced, as was the case during the last financial crisis. While politicians in "car regions" and the automotive industry demanded such a premium, there were considerable splits even within government parties on its merits. Economists opposed it and green groups mobilized against it. The final package does not include such a general purchase premium, marking a significant shift in public opinion and political power play.

Context indicators[6]	Germany	EU average
GDP (2019)	**3435.8 bn €**	
GDP (per capita, 2019)	**41510 €**	**31130 €**
GDP (per capita, 2020, provisional)	**40050 €**	
Debt (% of GDP, 2019Q4)	**59.8 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**70.0%**	**89.8%**
Unemployment Rate (December 2019)	**3.3 %**	**6.5 %**
Unemployment Rate (August 2020)	**4.4 %**	**7.7 %**
Unemployment Rate (December 2020)	**4.6%**	**7.5%**
Real GDP forecast for 2020	**- 6.3 %**	**- 8.3 %**
Real GDP forecast for 2021	**+ 5.3 %**	**+ 5.8 %**
Total recovery spending	**140.3 bn €**	
EU recovery funding (grants only, current prices)	**25.5bn €**	

KEY FOCUS AREAS OF THE GERMAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

The government's announced priorities for the recovery package included securing jobs and prosperity and re-vitalizing the economy. However, its goals did go beyond this, and Chancellor Merkel said when presenting the package that "we live in times of societal change", especially due to climate change and digitalization, and that therefore a "future-oriented" package was necessary, not a "traditional" stimulus package.

The political debate on the response and recovery measures in advance of the government's decision focused on the issue of premiums for car purchases and the question of what car types should benefit, which was closely linked to a general debate on whether recovery measures should benefit specific sectors or target the economy as a whole. Furthermore, the debate concentrated on concrete support for citizens and especially families directly, as well as on the question if and to what extent major companies such as Lufthansa should receive unconditional state support.

With an overall budget of €130bn, the domestic recovery package presented in the summer of 2020 was larger than most observers expected. Its flagship measure, a temporary reduction of the VAT rate for six months, also came as a surprise to many observers. The package includes a dedicated €50bn "Future Fund" which aims to boost a future-proof economy. However, large parts of the package's climate-relevant funding are not actually mobilized through that fund, as, for example the lowering of the renewable energy surcharge (€11bn) sits elsewhere in the overall package.

FINANCING AND ADDITIONALITY OF GERMANY'S RECOVERY PACKAGE

Due to the Covid-19 crisis, the government broke its principle of not taking on new debt to finance the stabilization and recovery measures. In 2020, the government has taken on €242bn in new debt, and a further €180bn in 2021. Germany will use money from the EU's Recovery and Resilience Facility to finance some of the recovery measures that were announced earlier in 2020. The RRP is not transparent about cross-financing on a detailled project level, but our analysis suggests that around two thirds of RRF funds will be spent on measures that have previously been agreed.

Compared to the previous recovery package, the RRP adds measures especially in the fields of digitalization and European cooperation, with funding for three Important Projects of Common European Interest (IPCEIs) focusing on hydrogen, microelectronics and communication technologies, as well as cloud and data computing.

GOVERNANCE OF THE RECOVERY PACKAGE

There is no climate-related governance of the recovery efforts. The government does specify that all funds from the domestic recovery package should be spent by the end of 2021 but does not provide more details beyond this in the package itself. It remains to be seen whether more concrete conditions and benchmarks will be included in the ongoing legislative implementation of the package's measures.

Nonetheless, it must be noted that broader German climate legislation is supported by an extensive governance system, including through the Climate Cabinet and a recently established independent advisory body for the implementation of the Climate Law. Both could be linked to the implementation of the recovery package.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The federal government agreed on a €600bn economic stabilization fund that was open to all struggling companies in March, and support from this fund was not linked to any sustainability conditionalities. However, some major bail-out decisions were subject of public scrutiny, including the government's decision to support the airline Lufthansa with a €9bn bail-out in exchange for a 20% stake in the airline and

two seats on the supervisory board. However, this issue was contentious mostly because a top shareholder initially resisted this partial state ownership of the airline, and climate concerns played a minor role in the debate. The government's support for Lufthansa is not linked to any climate conditionalities. Furthermore, the government also provided a €550m loan to the airline Condor, again without climate conditionalities. At present, there is an ongoing debate about whether the government should purchase stakes in major industrial companies that are suffering from the present circumstances, such as steel maker ThyssenKrupp. Here, too, climate considerations are playing no significant role. Independent from the recovery debate but during the summer of 2020, the German parliament approved the coal phase out law and a linked public-private contract with coal operators which guarantees generous compensations. Compensations for lignite companies are currently subject of a state aid investigation of the European Commission.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- A temporary cut of the VAT rate for the second half of 2020 (€20bn), which we assess as negative as such generalized consumption incentives do not advance the green transition, but rather manifest the status-quo in a still fossil-dependent economy.

- The lowering of the renewable energy surcharge paid by electricity consumers (€11bn), which we assess as positive as it will improve planning security for and affordability of the energy transition and incentivize an increased use of (renewable) electricity.

- Significant support (€10.5bn) for hydrogen projects in the context of the National Hydrogen Strategy (€7bn for domestic projects, €2bn for international projects, and €1.5bn for cross-European projects; of this overall €3.2bn through the RRF). We assess some of these as positive (€2bn support for electrolysers and €2.5bn for hydrogen use in industry) and very positive (international efforts), as the strategy is committed to green hydrogen, especially in its international context. However, loopholes for fossil-based forms of hydrogen remain, and if this funding were to be channeled towards such types of hydrogen this assessment would need to be adjusted downwards. Such dangers, in conjunction with a risk of inefficient hydrogen developments, especially exist with regards to infrastructure development (€1bn) and in the transport sector (€1.5bn), which we therefore assess as likely climate effect but direction not assessable.

- Support for municipalities (€5.9bn), which we assess as likely climate effect but direction not assessable as the funding is not connected to any climate targets or measures but could be used by municipalities to invest in the green transition. Notably, the Environment Ministry published an extensive study on the benefits of financing municipalities for the green transition in advance of the presentation of the recovery package. The package contains a further measure to support municipalities in covering housing costs (€4bn, likely no significant climate effect).

- A number of measures to support the automotive industry, including purchase premiums for electric and hybrid vehicles (€3.2bn in total, of this €2.5bn through the RRF – we assess the support for pure electric vehicles as very positive and the support for hybrid vehicles (€1.1bn) as negative) a transformation fund for the automotive supply chain (€2bn, of this €1.9bn through the RRF, positive) and a future fund for the automotive industry (€1bn, positive). In the field of e-mobility, measures include support for electric vehicle infrastructure (€2.5bn, of this €0.7bn through the RRF, very positive), as well as tax reductions for electric vehicles (€0.3bn through the RRF, very positive). Considering the traditionally high influence of Germany's automotive industry, the importance of the fact that a general purchase premium did not make it into the recovery package cannot be underestimated. Instead, most funding directed towards the sector can now help advance the transformation to electric mobility, but there are exceptions, such as a truck fleet renewal program which also supports internal combustion engine vehicles (€1bn, very negative).

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Social support measures, e.g. a capping of social insurance costs (€5.3bn), a one-time bonus payment for families (€4.3bn) and investments in kindergartens and childcare facilities (€3bn, of this €0.5bn through the RRF).

- Measures to advance the digital transition, e.g. an increase of public investments into AI technology (€2bn), investments into quantum technology (€2bn), 5G as well as 6G technology (€7bn), and investments in Important Projects of Common European Interest (IPCEI) on microelectronics and communication technology as well as cloud and data computing (€2.25bn through the RRF).

- Additional funding for the healthcare system, e.g. though a "Pact for Public Healthcare Services" (€4bn, of this €0.8bn through the RRF), a "Future Program Hospitals" (€3bn, completely funded through the RRF), and investments into medicine goods and national and international vaccine efforts (€3.5bn, of this 0.75bn through the RRF).

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

Some processes, such as the development of a National Hydrogen Strategy and a dialogue on the expansion of renewable energies between the federal and state governments were delayed in the initial weeks of the crisis. Overall, however, no important environmental and social regulations were weakened during the crisis. On the contrary, several positive climate policy measures were introduced during the crisis months, including a loosening of restrictions on solar and onshore wind deployment. Furthermore, previously planned projects, such as Germany's first issuance of sovereign green bonds, were rolled out, and the German parliament passed long-awaited, and controversial, legislation for the country's coal phase-out in July 2020.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	Most important measures with effect on green transition
Energy	• Lowering of renewable energy surcharge (€11bn, positive) • Support for hydrogen projects (€2bn for electrolysers, positive; €1bn for infrastructure, likely climate effect but direction not assessable; €2bn for international projects, very positive; and €1.5bn for cross-European cooperation through an IPCEI, fully funded through the RRF, very positive) • Removal of regulatory restrictions on the expansion of wind power and solar PV in advance of the recovery package
Mobility	• Support for public transport (€2.5bn, positive) • Purchase premium for electric and hybrid cars (€3.2bn in total, of this €2.5bn through the RRF – we assess the support for pure electric vehicles as very positive and the support for hybrid vehicles (€1.1bn) as negative) • Program for transformation of car supply chain (€2bn, of this €1.9bn through RRF, positive) • Investments into electric vehicle infrastructure (€2.5bn, of this €1.5bn through RRF, very positive) • Increase of equity capital for railway company (€5bn, very positive) • Shipping modernization measures (€1bn, negative) • Support of best available technology in aviation (€1bn, negative) • Future Fund for automotive industry (€1bn, positive) • Truck fleet renewal program (€1bn, very negative)
Industry	• Hydrogen use in industry (€2.5bn, of this €1bn through RRF, very positive) Furthermore, there are significant overlaps with measures in other sectors (e.g. transformation of the automotive industry).
Buildings	• Investments into building energy efficiency (€2.5bn, completely funded through RRF, very positive)
Cross-cutting	• VAT cut for second half of 2020 (€20bn, negative)

This report was written by Alexander Reitzenstein (E3G), Felix Heilmann (E3G) and Antonia Brand (Wuppertal Institute). We are grateful to Helena Mölter (Wuppertal Institute), Lisa Fischer and Rebekka Popp (both E3G) for providing valuable inputs.

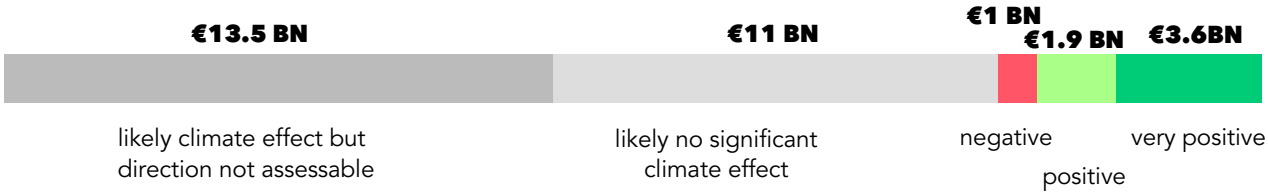
REFERENCES

[1] Koalitionsausschuss (2020). Corona-Folgen bekämpfen, Wohlstand sichern, Zukunftsfähigkeit stärken
[2] DGB (2021). DGB-Stellungnahme zum Entwurf des Deutschen Aufbau- und Resilienzplans (DARP)
[3] DNR et al. (2021). Offener Brief zum EU-Wiederaufbaupaket: Deutschland muss nachbessern
[4] Handelsblatt (2021). EU verweigert Deutschland vorerst Gelder aus dem Wiederaufbaufonds – wegen fehlender Reformen
[5] Deutsche Umwelthilfe (2021). Deutscher Wiederaufbauplan verpasst Chance für Klimaschutz und Biodiversität
[6] Eurostat; European Commission (2020). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis

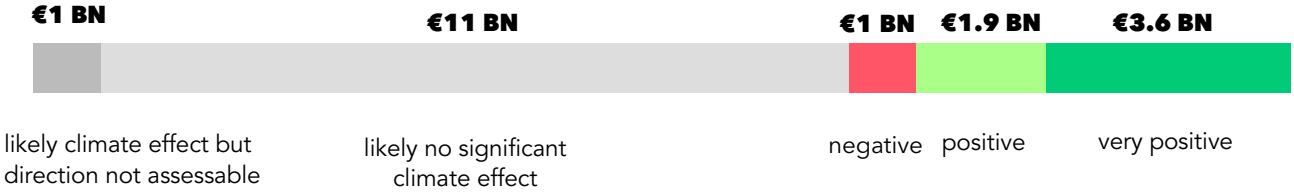
GREEN RECOVERY TRACKER

GREEN RECOVERY TRACKER REPORT: GREECE

Overall, Greece's recovery measures have the potential to make a moderate contribution to the green transition, as our analysis identifies the following spending shares.



The following figure is showing the spending shares of the Recovery and Resilience plan taking into account Grants (€17.8 bn) only:



The pandemic hit the Greek economy after a decade long crisis and stagnation, at a moment when economic growth was timidly picking up. On the eve of the pandemic Greece's economy was still 18% lower than prior to the 2010 debt crisis[1], while economic activity is expected to shrink by 10% in 2020. Greece entered the pandemic with a public debt legacy of 180% of GDP[2], while the combination of additional spending to shield the economy and of economic contraction will substantially increase Greece's debt-to-GDP ratio, to more than 200%. According to the EU Economic forecast Autumn 2021, Greece's economy rebounded strongly in the second quarter of 2021, by 3.4% compared with the previous quarter. Real GDP reached its pre-pandemic level in the second quarter of 2021[3].

A limited "fiscal space" means that the overwhelming majority of recovery expenditures is expected to come from the EU's Recovery and Resilience Facility (RRF), of which Greece is one of the major net beneficiaries: available RRF grants and loans amount to €29 billion (constant 2018 prices), equivalent to 15.8% of Greece's 2019 GDP[4]. Additional €3bn in grants will come from other components under the Next Generation EU program.

After a decade of dearth of investments in the real economy, high unemployment and weak economic performance, the national recovery and resilience plan (RRP) can be perceived as a unique opportunity both for responding to the crisis triggered by the pandemic and for boosting transformational investments.

GREEN RECOVERY TRACKER

In focus: Green Spending Share

We find that Greece's final recovery plan (RRP) achieves a green spending share of 14% (including Grant and Loan component), whereas the RRP incl. Grants only achieves a green spending share of 24%. Furthermore, we find that 44% (€13.5bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures. The main portion of this is due to the loan component (€12.5bn) which is used for passing on guarantees and concessional finance to the private sector. Though the government published a guidance on how to channel this into green investments, it is not assessable yet to which extent these investments will contribute to climate mitigation. According to the EU assessment, the plan's climate spending share is 38%.* The divergence between these assessments can be explained by two factors: first, the fact that we could not assess the loan component (i.e. the end use of loans cannot be determined ex ante); second, that unlike the EU's green tagging methodology, our methodology does not classify climate adaptation and biodiversity conservation as positive contributions towards climate mitigation, unless the link with the latter is direct.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Linking the economic recovery to the just transition of coal regions

Along with a number of clean energy, energy efficiency, and clean transport investments that can help Greece accelerate its decarbonization, a good practice worth flagging is the leveraging of RRF funds to support the coal phase out by mobilizing additional investment in coal regions for a just transition. Indeed, the EU's Just Transition Mechanism (JTM) provides relatively limited funds to support the economic restructuring of regions facing the consequence coal phase out (by 2028), and the leveraging of additional funds via the RRF can be classified as a good practice.

GREEN RECOVERY TRACKER

Bad Practice

Using recovery loans for fossil gas infrastructure

Although the initial draft plan included investments in fossil gas related infrastructure within its grant component, these were eventually excluded from the final plan. However, investments for new fossil gas infrastructure are eligible for a loan under the RRP's loan mechanism, provide they abide to the DNSH criteria of the RRF regulation. This is a bad practice, as new gas infrastructure could lock Greece's energy system in a high carbon intensity path for many decades. Further, if Greece is to minimize gas penetration in its energy mix, it needs to significantly ramp-up investments in viable alternatives, such as electricity storage. However, the RRP only dedicates €450 million for new storage systems, something which is insufficient to hit the target even of the existing NECP (based on previous, less ambitious EU climate targets). As such the RRP is unambitious as it fails to drive a change in philosophy for Greece's energy transition.

To Our Surprise

Green budgeting comes to Greece

The 2021 budget introduces the notion of green budgeting for the first time in Greece. In 2020 the government joined the OECD's Paris Collaborative on Green Budgeting, and the explanatory report accompanying the 2022 budget specifies that the government is in the process of developing methodologies for tracking the climate contribution of budgetary and fiscal policies in cooperation with relevant international institutions. According to the timeframe presented in the same report by 2025 it is expected a complete depiction of the environmental footprint of the different budgetary policies. Although the examples for the moment provided in the explanatory report are fairly narrow and shallow compared to international best practice, and actual figures have yet to be produced, this is a step in the right direction.

GENERAL CONTEXT

Before the Covid-19 crisis hit the country, the political debate in Greece was dominated by economic and social issues as a consequence of Greece's decade long "great depression" and subsequent slow recovery.

Within this context, the government adopted a climate transition agenda notably as a means of catalyzing new investments and job creation. One of the first announcements of the Greek prime minister, leader of the conservative party New Democracy, when coming into office in

2019 was an ambitious strategy of full lignite phase out by 2028. This announcement was further elaborated in Greece's 2019 national energy and climate plan (NECP), which projects a prompt replacement of lignite via a substantial increase of renewable energy systems and fossil gas (coal to gas switch) in the energy mix by 2030.

The preparation for a just transition plan for coal regions has been the subject of a prominent policy debate over the course of 2019 and 2020. Further, in line with the objectives set out by the NECP, over the course of 2020 the government notably introduced new legislation providing substantial subsidies for the purchase of electric vehicles, and a new energy efficiency scheme destined to enhance the energy performance of the buildings stock. Finally, in November 2021 the Greek government presented a proposal for climate law aligning the Greek targets with the European ones.

However, current policies contain a number of blind spots and debatable policy directions in the fields of climate and wider environmental policy[5]. First, the partial switch from coal to new gas infrastructure (instead of coal to renewables) bears the substantial risk of locking Greece's energy system in fossil fuel infrastructure for the forthcoming decades. Second, both the decarbonization of the transport system and energy efficiency targets set by the NECP are relatively unambitious. Third, in the realm of wider environmental policy, Greece presents significant delays in the application of EU environmental policy and legislation regarding biodiversity and circular economy targets. Greece has been the object of infringement processes, for instance concerning the protection of its Natura-2000 network and waste management practices. Fourth, the current government has not challenged the decision of previous governments to grant rights on a large amount of Greece's territory, onshore and offshore, for the upstream exploration, and possible future extraction, of oil and gas.

Within this wider context, the major stake is whether the RRF funds will be harnessed to invest in the necessary infrastructure for achieving more ambitious climate and environmental targets, while avoiding investments that are likely to harm medium to long-term green transition prospects.

On November 25, 2020, the Greek government published its "Strategic directions of the National Recovery and Resilience Plan", which was open to consultation until December 20. The full (draft) NRRP was submitted to the European Commission immediately, without waiting for the conclusion of the consultation period, while the final plan was adopted by the European Commission, in June 2021.

GREEN RECOVERY TRACKER

Context indicators[6]	Greece	EU(27) average
GDP (2020, provisional)	**165.3 bn €**	
GDP (per capita, 2020, provisional)	**16170 €**	**26380 €**
Debt (% of GDP, 2019)	**180.7 %**	**78.8%**
Debt (% of GDP, 2020)	**206.3 %**	**91.8%**
Unemployment Rate (2020)	**16.3 %**	**7.1 %**
Unemployment Rate (2021, forecast)	**15.3 %**	**7.1 %**
Real GDP forecast for 2021	**+7.1 %**	**+5.0 %**
Real GDP forecast for 2022	**+5.2 %**	**+ 4.3 %**
Total recovery spending	**32 bn €**	
EU recovery funding (grants only, constant 2018 prices)	**16.4 bn €**	

KEY FOCUS AREAS OF THE GREEK RECOVERY DEBATE AND THE RECOVERY PACKAGE

Greece's RRP is composed of a grant component and a loan component. The grant component is structured around four pillars: (1) the green transition (€6.2 billion), (2) the digital transition (€2.1 billion), (3) employment, skills and social cohesion (€4.1 billion), and (4) accelerating private investment (€4 billion). On top of the grant component, the RRP will also leverage additional loans worth €12.6 billion from the RRF, to finance the plan's "loan facility". The latter is expected to be used for providing concessional finance to Greece's private sector. In theory, the loan facility should channel at least 37% of total funds for green investments (as per the RRF's green tagging methodology) while the entire loan facility should respect the "do no significant harm" provisions of the RRF regulation. However, it is impossible to determine ex ante where the loans will eventually be channeled.

A number of reforms and investments included in the RRP are based on the recommendations of a separate document, the "Growth strategy for Greece" drafted by an expert commission headed by Nobel laureate Christopher Pissarides[7]. Many elements of this medium to long-term growth strategy have been politically divisive, with major opposition parties openly criticizing

a number of its key reform recommendations, namely: its proposal for changing the auxiliary pension scheme from distributive to individual capitalization; its lack of concrete proposals to reduce inequality beyond trickle down; its concept of enhancing enterprise size to increase international competitiveness by merging SMEs, the backbone of the Greek economy with the few large ones; its proposals for further relaxation of labor rights; and its underlying reliance on markets to address, through growth, social needs.

In terms of the green transition components of the RRP, these are split among four major categories, mirroring some of the EU's RRF flagship areas, namely:

- Power up
- Renovate
- Recharge and refuel
- Sustainable use of resources, climate resilience

Although no major players are opposing the principle of dedicating a substantial share of recovery funds for green transition investments, dividing lines are evident on the details and content of the plan.

A first dividing line concerns the development of new fossil fuel infrastructure. While the government and industry lobbies insist on financing new fossil gas infrastructure, the view that fossil gas can still be considered a "transition fuel" for the 2020s and 2030s is being increasingly challenged both by civil society organizations and some political parties. On the extreme side of the spectrum, a recent report on Greece's "Green Deal", written by former minister Ioannis Maniatis, even classified upstream oil and gas projects as "green transition" investments[8].

A second dividing line concerns the role of citizens in the energy transition. The governing majority seems to favor large-scale, concentrated renewables deployment, with a recent piece of legislation curtailing the role of community energy projects in the green transition. On the other hand, the largest left-wing opposition party places a heavier emphasis on the role of distributed energy systems through the active participation of citizens via Greece's community energy scheme (based on the Greek law on energy communities).

FINANCING AND ADDITIONALITY OF GREECE'S RECOVERY PACKAGE

Greece's €32 billion support package[9] (constant 2018 prices) is expected to be largely financed through the EU's Recovery and Resilience Facility, from which Greece will receive €16.4bn in grants and €12.7bn in loans. Further sources of funding are grants from other Next Generation EU-components, namely REACT-EU (€2.3bn), the Just Transition Fund (€0.4bn) and the European Agricultural Fund for Rural Development (0.3bn). The MFF grants allocated to Greece for the period 2021-27 (€38 billion in constant 2018 prices) remain roughly at the same

level of the previous MFF 2014-20 (€36 billion in constant 2018 prices). As such, the main "difference maker" in terms of the short- to medium-term economic recovery from the pandemic is clearly the RRF, not only considering its additionality but also in view of its frontloaded structure.

The 2021 budget projects that Greece will manage to spend €2.6 of grants and €1.2 billion of loans from the RFF, in addition to €1.6 billion available via the REACT-EU facility.

Although the RRF clearly consists of additional funds, a major question regarding its impact on the medium- to long-term recovery is whether it will be harnessed to finance investments for reaching additional climate and biodiversity targets, over and above those already planned to 2030; or whether it will instead be used to fulfill investments for hitting existing targets.

To give one example, Greece's NECP already planned the upgrading of approximately 60,000 private buildings (including in the households and services sector) annually, in order to reach a target of upgrading 12-15% of Greece's building stock by 2030[10]. Whilst the RRP includes a "renovate" component for increasing the energy efficiency of the building stock, it remains unclear whether this component will deliver additional or deeper renovations (compared to those already planned) or simply be used to fulfill the NECP's target.

The additionality of the RRP's investments compared to Greece's current NECP is crucial, as the latter will need to be revised over the course of 2021 to reflect the EU's decision to raise its emissions reduction target to 55% by 2030.

GOVERNANCE OF THE RECOVERY PACKAGE

The recovery package is loosely linked to the targets of Greece's NECP (to 2030) and Long Term Energy and Climate Plan (to 2050).

To this date, the governance process of the RRP has been very centralized and untransparent. There has been limited public consultation throughout the design of the plan, and the only document formally put to public consultation was the "Strategic direction of the Recovery and Resilience Plan", a report disclosing very limited information on the full (draft) RRP sent to the European Commission. Finally, although the full RRP was eventually made public, the detailed project fiches and the "do no significant harm" assessments of individual projects remain undisclosed.
In October 2020, the government created an ad hoc public body attached to the Ministry of Finance, the "special department for the management of the recovery fund", which is expected to manage the RRP and oversee its implementation. The RRP will be centrally managed, while regional and local governments are expected to have a secondary role.

GREEN RECOVERY TRACKER

Overall, civil society organizations, opposition parties and MPs have been stressing the need for a more transparent process in the design of the RRP and its subsequent implementation. Demands for greater transparency have been largely ignored to this date.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

Starting from the first lockdown in March, the Government provided direct income support to employees who were laid off or furloughed, loans to enterprises compelled to close and loan guarantees, postponed VAT payments and tax obligations, covered in part social security contributions and selected enterprise rent payments.

The total support provided to the Greek economy to address the pandemic in the period 2020-2022 amounts to 43.3 billion euros, of which 23.1 billion euros relate to the year 2020 (including additional spending and foregone or deferred revenue) 16.9 billion euros in the year 2021 and 3.3 billion euros in 2022. Of this total, approximately €12.9 billion were mobilized so far for the provision of liquidity support to firms via guarantees and "below the line" measures (e.g. equity injections and loans)[11].

Support measures for firms did not have any climate or environmental conditionality attached, despite the fact that the vast majority of liquidity support was absorbed by large companies. Crucially, neither the €120 million grant to Aegean Airlines (Greece's largest airline) nor the various support measures offered to shipping companies, and energy companies, included any green conditionality[12].

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE PRELIMINARILY ASSESS THEM

Although the government has provided no detailed investment cost breakdowns and we rely on partial information, **the most important measures included in the RRP with an effect on the green transition are:**

- The upgrade of electricity infrastructure, a measure we consider necessary to increase the penetration of renewable energy systems in the energy mix.

- Additional support to coal regions in transitions, notably via investments in district heating systems, energy efficiency, and the financing of soil rehabilitation works. We

consider that leveraging the RRF to complement the (more limited) funds provided by the JTF (Just Transition Fund) is certainly positive, in principle.

- A new dedicated scheme to accelerate investments in energy upgrades (retrofitting), combined with support measures for the installation of onsite renewable energy power generation systems (PV), electricity storage infrastructure (batteries), charging stations for electric vehicles, and smart meters.

- A scheme providing financial support for rolling out of an accessible electric vehicles charging network across Greece. Although this is certainly a positive measure for enhancing e-mobility, it is partial at best. Indeed, no measures to increase clean public (or shared) transport infrastructure, notably in urban centers, are included in the RRP. Similarly, the RRP ignores necessary investments for expanding the rail network (one of the smallest in the EU) and/or fully electrifying the existing part, as well as the greening of other transport modes i.e. maritime and aviation

- Investments for the sustainable use of resources and climate resilience, notably including reforms and investments for: promoting sustainable agriculture, enhancing the sustainable use of resources, restoring forest ecosystems, accelerating the transition to a circular economy, upgrading the infrastructure of protected areas, and enhancing the protection to floods and forest fires. Although we consider the inclusion of such investments positive in principle, there are some concerns on the environmental impact of some of the measures e.g. the construction of dams, expressed also by local communities.

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- The digital pillar of the plan (€2.1 billion of grants), which for instance includes investments and reforms to (a) improve broadband connectivity and digital inclusion across the territory, (b) accelerate the digitization of businesses, and (c) digitize public services.

- The employment, skills and social cohesion pillar of the plan (€4.1 billion of grants), which includes among others investments and reforms to (a) improve the accessibility of the healthcare system, (b) enhance digital skills of the population at multiple levels (education system, vocational training, lifelong learning etc.), and (c) employment support measures via both active and passive labor market policies.

GREEN RECOVERY TRACKER

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

The Greek government introduced a series of (positive and negative) new laws and announced several climate related initiatives during the pandemic period.

On the legislation front, it notably introduced new legislation aiming to catalyze the development of e-mobility, including economic incentives and the roll-out of charging infrastructure. The government also introduced a relatively ambitious (compared to previous similar schemes) energy upgrade scheme for buildings.

On the policy front, the 2021 budget introduces for the first time the notion of "green budgeting", although the way it is implemented is narrow and shallow compared to international best practices, hence falling short of expectations.

A series of negative developments should also be highlighted. First, a 2021 law strongly curtailed the prospects of community/cooperative energy schemes (as per Greece's law on energy communities). Second, in early 2021 the government (along with 9 other EU Member States) decided to block the delegated acts of the EU taxonomy regulation on the grounds that fossil gas infrastructure is not eligible to be classified as a "green" investment by the EU taxonomy's technical screening criteria[13]. Since then, the Greek government has consistently supported the inclusion of both fossil gas and nuclear in the EU Taxonomy.

This report was written by Olivier Vardakoulias and Victoria Tsitsoni (both WWF Greece) and Dimitris Lalas (FACE[3]TS S.A.). We are grateful to Antonia Brand (Wuppertal Institute) and Helena Mölter (Wuppertal Institute) for providing valuable inputs.

GREEN RECOVERY TRACKER

REFERENCES

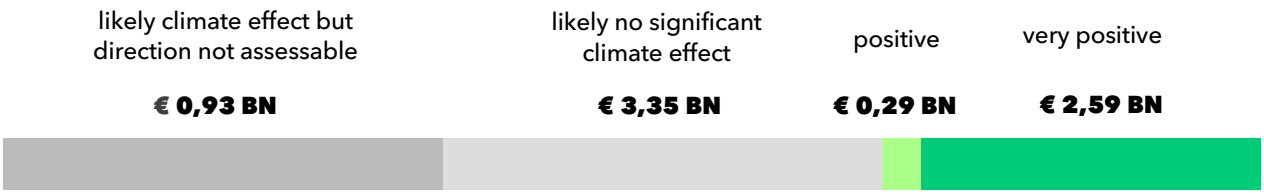
[1] Eurostat: https://ec.europa.eu/eurostat/databrowser/view/tec00001/default/table?lang=en
[2] Eurostat: https://ec.europa.eu/eurostat/databrowser/view/sdg_17_40/default/table?lang=en
[3]https://ec.europa.eu/economy_finance/forecasts/2021/autumn/ecfin_forecast_autumn_2021_el_en.pdf
[4] In nominal terms the grants available to Greece are of 17.8 billion (or 16.45 billion in 2018 prices based on fixed deflators used by the European Commission). On top of grants, Greece can claim loans of a maximum of 6.8% of its 2019 Gross National Income i.e. 12.9 billion. The latest allocation calculations for the recovery and resilience facility are available in the following document: https://ec.europa.eu/info/sites/info/files/about_the_european_commission/eu_budget/recovery_and_resilience_facility_.pdf.
[5] For an overview of the limitations of the NECP see for example page 30 of: Vardakoulias, O (2020). Blueprint for a green recovery in Greece. WWF Greece report. https://wwfeu.awsassets.panda.org/downloads/wwf_greece_green_recovery_report_eng.pdf
[6] Eurostat; European Economic forecast Autumn 2021; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[7] Pissarides, C, Vayanos, D, Vettas, Meghir, C (2020). Growth plan for the Greek economy (in Greek). https://government.gov.gr/wp-content/uploads/2020/11/growth_plan_2020-11-23_1021.pdf
[8] (In Greek). Dianeosis (2020). Green growth: Responding to the environmental crisis. https://www.dianeosis.org/wp-content/uploads/2020/11/Maniatis_final.pdf
[9] Ministry of Finance (2020). Strategic directions of the recovery and resilience plan. http://www.opengov.gr/minfin/wp-content/uploads/downloads/2020/11/Greece-RRP-EN-1.pdf
[10] Ministry of the Environment and Energy (2019). National Energy and Climate Plan. https://government.gov.gr/wp-content/uploads/2020/11/growth_plan_2020-11-23_1021.pdf
[11] Ministry of Finance (2020). State budget for 2021 and 2022; IMF (2021). Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic.
[12] European Commission (2020). State Aid cases: Greece. https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/jobs-and-economy-during-coronavirus-pandemic/state-aid-cases/greece_en
[13] Twice along the adoption process. See Euractiv: Brussels postponed green finance rules after 10 EU states wielded veto. https://www.euractiv.com/section/energy-environment/news/brussels-postponed-green-finance-rules-after-10-eu-states-wielded-veto/ and WWF EU: https://www.wwf.eu/?uNewsID=5424966

GREEN RECOVERY TRACKER

GREEN RECOVERY TRACKER REPORT: HUNGARY

In mid-April 2021, the Hungarian government presented a first complete public draft of its Recovery and Resilience Plan. The original plan set out measures for the full amount of grants and loans for which Hungary is eligible. The plan was subsequently fundamentally revised in late April. During the revision, the Plan was substantially scaled down, and the loans were completely deleted from the plan. The final Recovery and Resilience Plan was submitted to the Commission on the 11th of May 2021, and officially published only on the 17th of May, therefore external stakeholders had no chance to articulate any feedback to the fundamental changes made by the government. The final Hungarian Recovery and Resilience Plan includes € 7.2 bn in grant funding (almost 5% of the domestic GDP).
Overall, Hungary's recovery measures make a positive contribution to the green transition. Our analysis identifies the following spending shares:

Figure 1: Amounts committed by assessment category (all recovery measures)



In focus: Green Spending Share

We find that the Hungarian recovery plan (RRP) achieves a green spending share of 37%, equal to the EU's benchmark. Furthermore, we find that 13% (€ 0.93bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures. According to the government, the plan's climate spending share is 41% (see page 6 for more details).

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to the green transition (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

The dedicated aim of the Hungarian plan is primarily to counteract the economic and social impacts of the COVID-19 epidemic and to increase the resilience, sustainability and preparedness of the economy for the challenges and opportunities presented by the green and digital transition. The main part of the budget is devoted to improving health, education, boosting environmentally friendly forms of transportation and scaling up solar electricity production, with a clear focus on areas relevant to climate change and digitalization.[1].
NGOs critizised that the entire Plan is dominated by infrastructure developments and it does not mention any measures that might compensate for the biodiversity loss that inevitably happens when new buildings are built, roads fragment habitats and all the material needed for the construction is sourced and transported. (E.g.: no net loss measures, power lines with bird protection devices (wildlife-friendly power poles), bird boxes, pollinator-friendly green infrastructure) and nature-based solutions (smart use of rainwater, green roofs, etc)[2].

While the plan looks strong on climate-spending, the positive impact of the green investments set out will depend heavily on the funds being effectively disbursed in line with principles of good governance and to those entities who are best capable of delivering the respective services in the public interest.

GREEN RECOVERY TRACKER

OUR HIGHLIGHTS

Good Practice

Transmission and distribution grid developments

The measure aims to significantly expand both the power transmission system and distribution network. Improvements to these systems will be particularly important in the context of the government's plan to increase solar power and the electrification of heating systems.

Bad Practice

Energy efficiency measures are very scarce

The Plan includes a number of good measures for increasing the share of renewable energy in final energy consumption. However, energy efficiency measures in the building sector are underrepresented in the plan. If the use of renewable sources in heating systems is not combined with deep renovation measures, these heating systems will not be able to effectively contribute to decarbonization.

To Our Surprise

Community renewable energy production and use

Following a successful pilot project, this measure seeks to implement environmentally and socially sustainable housing solutions using renewable energy, with the revenues from a small power plant to be used for social housing in a settlement through pre-payment meters. For the long-term success of the measure, it would be extremely important to combine renewable energy production with building energy efficiency measures.

GENERAL CONTEXT

In October 2019 municipal elections took place in Hungary. While the governing Fidesz party received the majority of the votes, opposition parties won the elections in numerous larger cities including Budapest[3].

The Hungarian government reacted quickly and assertively as soon as the first cases of COVID-19 appeared in the country. On the 30th of March 2020, the so-called coronavirus law was introduced, which allowed exceptional legal order for an undefined period of time. The parliament was suspended, and an Operational Tribunal Body was formed to organize the fight against the disease. Soldiers were commanded to several strategically relevant companies and hospitals to support the protection against the virus. Hungary was shut down gradually. During the period of the exceptional legal order, the government passed or amended nearly 150 regulations[4], some of them had little connection to the control of the virus or to the mitigation of the economic or social implications of the pandemic (e.g. curtailed the right of transgender people to change their name).

While in the first wave the infection rates remained rather low, the second and especially the third wave of the pandemic hit the country hard. The lockdowns had serious economic and social consequences[5]. The unemployment rate increased significantly although it still remained far below the EU average. Hungary's real GDP declined by 13.6% in the second quarter of 2020 compared to 2019, because the country's economy is dependent on highly cyclical industries (such as the automotive sector) as well as tourism[6].

Context indicators[7]	Hungary	EU average
GDP (2019)	**146 bn €**	
GDP (per capita, 2019)	**14 950 €**	**31130 €**
GDP (per capita, 2020, provisional)	**13 940 €**	
Debt (% of GDP, 2019Q4)	**65.5 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**73.9%**	**89.8%**
Unemployment Rate (December 2019)	**2.9 %**	**6.5 %**
Unemployment Rate (August 2020)	**4.1 %**	**7.7 %**
Unemployment Rate (December 2020)	**4.2%**	**7.5%**
Real GDP forecast for 2020	**- 7 %**	**- 8.3 %**
Real GDP forecast for 2021	**+ 6 %**	**+ 5.8 %**
EU recovery funding (grants only, current prices)	**7.2 bn €**	

KEY FOCUS AREAS OF THE HUNGARIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

The submitted Hungarian RRP contains a total of 47 reforms or investments, which are classified under 9 national strategic pillars (demography and public education, highly educated competitive workforce, catching-up municipalities, water management, sustainable green transport, energy, transition to a circular economy, health, not policy related country-specific recommendations). The overarching aim of the recovery plan is to support the green and digital transformation of the country.

The first draft of the Hungarian "Recovery and Adaptation Plan" was released online in early December 2020. Rough descriptions of draft chapters of the plan were published on the official website of the government, with the possibility to submit comments in the following months. However, these pieces lacked sufficient information, such as the budget allocation. The detailed draft of the plan was only published in mid-April. A week later, the government

announced that they had decided to rewrite the plan and submit to the European Commission only measures that would be financed by grants, and to cut those that would be financed by loans. The final plan was submitted to the Commission without any public consultation or debate on its content.

Hungarian NGOs prepared comprehensive assessments to point to the weak parts of the draft Recovery and Resilience Plan[8]. Their main criticism was that it remains unclear why these measures were chosen for the recovery plan[9]. A comprehensive impact assessment of the introduced measures is missing. Furthermore, energy efficiency measures were completely deleted from the final version of the plan. It aims to reach decarbonization with the deployment of renewables and electrification of heating, but it lacks adequate support for the renovation of buildings to improve energy efficiency. Without the decrease of energy consumption, the proposed investments cannot support sustainable energy use or tackle energy poverty.

FINANCING AND ADDITIONALITY OF HUNGARY'S RECOVERY PACKAGE

The previously published final draft plan included € 7.17 bn of non-reimbursable grants, plus the possibility to receive € 9.66 bn in loans[10]. Later the loans were completely eliminated, and the plan was rewritten. The grants of the final Recovery and Resilience Plan are fully financed through the EU Recovery Facility. The Hungarian government has the possibility until 2023 to decide on the use of the loans[11].

GOVERNANCE OF THE RECOVERY PACKAGE

The Hungarian RRP aims "particularly to counter the economic and social impact of the coronavirus epidemic and to improve the resilience, sustainability and the green and digital transition of the economy". The introduced measures are linked to the targets defined in the Hungarian National Energy and Climate Plan[12]. The plan describes these links in detail and the "Do Not Significant Harm" principle is explicitly flagged and elaborated on for each strategic objective. Furthermore, the relevance of the measures from the climate view are presented in detail.

According to the plan, the measures achieve a 41,17% share of climate spending. The deviation between our numbers and official numbers can be explained partly by methodological differences. Furthermore, the measures „Green infrastructure development of early childhood education", „Infrastructure and skills development for practice-oriented higher education" and „21st century vocational training institution development programme" include only vague

information about the share of green infrastructure developments and the energy efficiency requirements of new and refurbished buildings. Therefore we assessed these measures as „likely climate effect but direction not assessable".

The recovery plan includes a section describing the modalities of implementation and monitoring procedures. The central coordination shall be carried out by a National Authority, a Deputy State Secretariat in the Prime Minister's Office[13].

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The first short-term fiscal measures were introduced in the first half of 2020, with an Anti-Epidemic Protection Fund (€1.88bn) and the Economy Protection Fund (€3.82bn) announced on 8th of April 2020[14]. These were measures to alleviate the fiscal burden on businesses, such as the social contributions of employers were lifted in the most affected sectors and the healthcare contributions were lowered. The taxes paid by small and medium enterprises (mainly in the services sector) were deferred until the end of the state of emergency[15]. Furthermore, about € 0.69 bn (0.6% of GDP) was reallocated to the healthcare sector. In the second half of 2020 several further tax relief measures were introduced to support families and businesses (especially for tourism, entertainment and leisure sectors).

The Funds were mainly financed by the reallocation of the state budget without much additional spending. Especially the budgets of local governments and the state funds of political parties were cut radically.[16]

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- Extending the capacity of the Budapest suburban rail network (HÉV) (€723m), which we assess as very positive due to the importance of the sustainable development of the suburban public transport. Similarly, the measure Competitive urban and suburban fleet in Budapest (€663m) is assessed as very positive, because it supports the modernization of the suburban public transport.

- Support for residential solar systems and electrification of heating systems in combination with solar systems (€454m), which we assess as very positive due to its importance of increasing renewable electricity generation. **However, it must be noted that the Hungarian RRF does not adequately support energy efficiency in the building sector. If the electrification of heating systems is not accompanied by the deep renovation of buildings and high energy efficiency standards both for new construction and existing buildings, then the measure will not be able to effectively contribute to the green transition.**
- Classical and smart grid developments for transmission system operators and distributors (€296m), which we assess as very positive due to its contribution to integrating fluctuating energy sources in the energy mix.
- Community renewable energy production and use (€33m), which we assess as very positive due to their importance for increasing the share of renewable electricity generation. **Again, here it is very important to accompany the local use of renewable electricity with deep building renovation measures, otherwise the measure is likely to be counterproductive.**
- Waste management infrastructure development (€171m) which aims to improve waste collection facilities. We assess this measure as positive due to the direct mitigation of CO_2 emissions from waste production.
- The measures Construction works for main irrigation systems, construction of new networks and systems (€120m) and Nature protection in water management (€6m) are very important climate adaptation measures. Nevertheless, we assess them as "likely no climate effect", because as we only evaluate the direct climate mitigation effects.

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Ensuring equal access to digital education for learners and teachers (€463m, likely no significant climate effect)
- 21st century vocational training institution development programme (€269m, likely climate effect but direction not assessable)
- Creating the conditions for 21st century health services (€834m, likely no significant climate effect)

- Supporting the digital transformation of healthcare (€309m, likely no significant climate effect)

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

Shortly before the pandemic, in December 2019, the Hungarian National Energy and Climate Plan was adopted[17]. The main objectives of the NECP are the improvement of energy security and sovereignty, keeping the reduced overhead costs[18] and to achieve the decarbonization of energy production with nuclear and renewable energy sources. The National Hydrogen Strategy was approved by the government in May 2020[19].

The Law on Climate Protection was passed in June 2020 with the dedicated aim to protect the natural heritage and natural conditions in the Carpathian Basin. The act sets a new interim target for GHG emission reduction (at least 40% by 2030 compared to 1990) and it aims to achieve complete climate neutrality until 2050. The share of renewable energy sources in the Hungarian gross final energy production should reach at least 21% by 2030[20].

Furthermore, in June 2020, the Hungarian Climate and Nature Protection Plan and related energy policy strategies were approved. The resolution aims at mitigating and adapting to climate change, upgrade the Hungarian energy system and enhance energy efficiency and decarbonize electricity generation. The document includes several climate related targets, such as the increase the capacity of solar plans by 6% until 2030 and 90% of the electricity supply should be carbon neutral until 2030[21].

The Long Term Renovation Strategy was approved by the government only on 3 June 2021, and published on the 5th of July[22]. Unfortunately, there were some setbacks in the field of energy efficiency, too. The introduction of near-zero energy building requirements has been postponed to 30th of June 2022[23].

GREEN RECOVERY TRACKER

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Classical and smart grid developments for transmission system operators and distributors (€296m, very positive) • Support for residential solar systems and electrification of heating systems in combination with solar systems (€454m, very positive)
Mobility	• Extending the capacity of the Budapest suburban rail network (HÉV) (€723m, very positive) • Competitive urban and suburban fleet in Budapest (€663m, very positive) • Elimination of rail bottlenecks on the TEN-T corridor (€57m, very positive) • Developing zero-emission bus transport (€151m, very positive) • Improving cycling infrastructure (€123m, very positive) • Deployment of central traffic management on TEN-T railway lines (€86m, very positive)
Industry	• Strengthening a smart, innovative and sustainable recycling industry and market (€123m, positive)
Buildings	• Construction and renovation of social housing, improvement of housing conditions (€188m, likely climate effect but direction not assessable) • Community renewable energy production and use (€33m, very positive)
Agriculture	• Construction works for main irrigation systems, construction of new networks and systems (€120m, likely no significant climate effect) • Establishing a monitoring system in water management (€1m, likely no significant climate effect) • Nature protection in water management (€6m, likely no significant climate effect)
Cross-cutting	• Green infrastructure development of early childhood education (€114m, likely climate effect but direction not assessable)

- Infrastructure and skills development for practice-oriented higher education (€183m, likely climate effect but direction not assessable)
- 21st century vocational training institution development programme (€269m, likely climate effect but direction not assessable)
- Waste management infrastructure development (€171m, positive)
- Ensuring equal access to digital education for learners and teachers (€463m, likely no significant climate effect)
- Establishment and complex development of National Laboratories (€180m, likely climate effect but direction not assessable)
- Improving basic health care (€192m, likely no significant climate effect)
- Creating the conditions for 21st century health services (€834m, likely no significant climate effect)
- Adjusting the salaries of doctors, phasing out of the gratuity (€857m, likely no significant climate effect)
- Supporting the digital transformation of healthcare (€309m, likely no significant climate effect)
- Digitalization development for the safety and security of people with reduced self-sufficiency (€257m, likely no significant climate effect)

This report was written by Magdolna Prantner (Wuppertal Institute). We are grateful to Zsófia Pej (Energiaklub), Koritár Zsuzsanna (Hungarian Energy Efficiency Institute), Teodóra Dönsz-Kovács (NSC - Friends of the Earth Hungary), Felix Heilmann, Johanna Lehne (both E3G) and Helena Mölter (Wuppertal Institute) for providing valuable inputs.

REFERENCES

[1] https://euagenda.eu/publications/assessment-of-hungary-s-recovery-and-resilience-plan and https://mtvsz.hu/energiafordulat and https://bankwatch.org/blog/hungary-s-recovery-plan-not-green-just-or-resilient
[2] https://mtvsz.hu/energiafordulat
[3] https://www.freiheit.org/central-europe-and-baltic-states/outlook-hungary-2021
[4] https://www.degruyter.com/document/doi/10.1515/npf-2020-0060/html
[5] https://cdn.americanprogress.org/content/uploads/2020/12/17120823/COVID19-in-Hungary.pdf
[6] https://ec.europa.eu/economy_finance/forecasts/2020/autumn/ecfin_forecast_autumn_2020_hu_en.pdf
[7] Eurostat; European Commission (2020). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[8] https://euagenda.eu/publications/assessment-of-hungary-s-recovery-and-resilience-plan
[9] https://energiaklub.hu/files/news/Brief%20summary%20of%20Energiaklub%20on%20the%20NRRP_EN.pdf
[10] https://www.palyazat.gov.hu
[11] https://koronavirus.gov.hu/cikkek/gulyas-magyarorszag-az-elsok-kozott-nyujtja-be-helyreallitasi-tervet-az-europai-bizottsagnak
[12] However, the Commission's October 2020 assessment of Hungary's National Energy and Climate Plan rated the energy efficiency targets as "very low ambition" and recommended increasing them. The Energy Efficiency First Principle appears in the plan at the level of declarations, but it is almost completely absent at the level of targets and measures.
[13] https://euobserver.com/justice/149405 and https://www.reuters.com/world/europe/exclusive-worried-by-systemic-fraud-eu-ties-recovery-funds-hungary-procurement-2021-02-08/
[14] https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#H
[15] https://home.kpmg/us/en/home/insights/2020/04/tnf-hungary-surtaxes-imposed-credit-institutions-retail-sector.html
[16] https://euobserver.com/opinion/148201
[17] https://www.climate-laws.org/geographies/hungary/policies/hungary-s-national-energy-and-climate-plan
[18] Since 2012, the government ordered several reductions on heating and electricity prices for households. Overall the energy prices were reduced about 25% for households irrespective of the income situation. Undifferentiated energy bill reductions are a serious obstacle to energy efficiency investments in Hungary. http://eko-unia.org.pl/wp-content/uploads/2018/06/mini-report-1_Hungary.pdf and https://energiaklub.hu/files/study/osszefoglalo.pdf
[19] https://www.climate-laws.org/geographies/hungary/policies/national-hydrogen-strategy-fdc38689-de55-4d7e-9df9-20a3a75e5553

[20] https://www.climate-laws.org/geographies/hungary/laws/law-on-climate-protection
[21] https://www.climate-laws.org/geographies/hungary/policies/climate-and-nature-protection-plan-energy-policy-strategy
[22] https://ec.europa.eu/energy/sites/default/files/documents/hu_2020_ltrs.pdf
[23] https://epitesijog.hu/10151-2022-junius-30-ig-kaptak-haladekot-a-nem-kozel-nulla-energiaigenyu-epuletek

GREEN RECOVERY TRACKER REPORT: ITALY

The final Italian Recovery and Resilience Plan (RRP) was presented by Prime Minister Draghi on 27 April 2021, after disagreements over an earlier version of the plan led to the dissolution of the previous government. The RRP draws on €235bn in total, with €191.5bn coming from the EU Recovery Facility (€68.9bn grants, the remainder loans), €13bn from the REACT EU Fund, and €30.6bn from a complementary fund using domestic funding sources. Overall, Italy's recovery measures fall short of the green transition potential of the recovery funds available. Our analysis identifies the following spending shares:

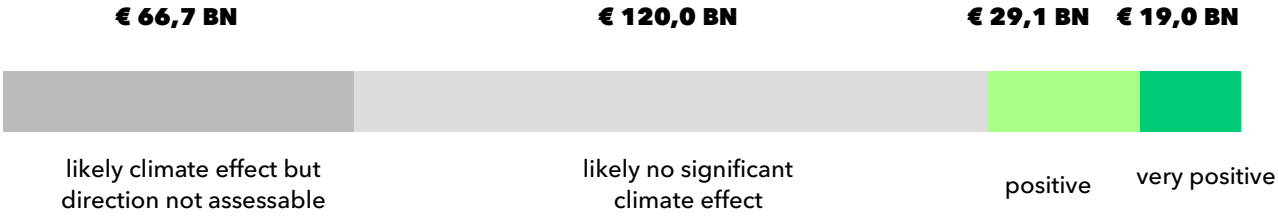


Figure 1: Amounts committed by assessment category (all recovery measures)

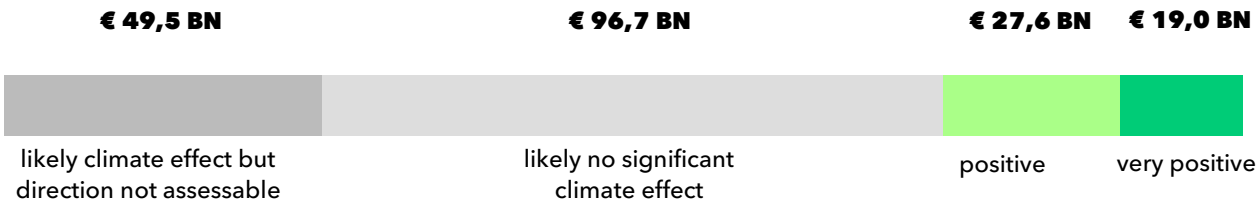


Figure 2: Amounts committed by assessment category (EU Recovery and Resilience Facility funding only)

While the plan includes investments into measures that are relevant to the green transition, there is a significant imbalance in the allocation of funds between sectors and activities. Many of the green investments in the plan are only likely to bring about an incremental shift towards a climate neutral economy and look fairly insignificant relative to the needs of an economy-wide transition to climate neutrality. In particular, we note that there is a lack of appropriate support for crucial pillars of the energy transition, notably the expansion of renewable energy generation and the direct use of electricity, as well as local sustainable mobility infrastructure. Altogether, the plan and the associated reforms favour permitting procedures for gas infrastructure while not pushing the electrification of final energy use. There is also a risk that a relatively high share of the recovery funds will be allocated to projects on, for instance, biomethane and hydrogen, which are attributable to the gas sector. In some cases, fossil gas activities can directly access recovery resources, for example through the inclusion of support for gas boilers in energy efficiency investments or support for gas-powered buses, which would lead to a lock-in risk of infrastructure which will slow down the climate transition.

In focus: Green Spending Share

We find that Italy's recovery plan (RRP) achieves a green spending share of 16%, below the EU's 37% benchmark. At the same time, we find that 26% (€49.5bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures. According to the government, the RRP achieves a climate spending share of 40%.

When assessing the full recovery package (including funds from the EU Recovery Facility, REACT EU and the Complementary Fund), Italy reaches a green spending share of 13%. Furthermore, we find that, overall, 28% (€66.7bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

GREEN RECOVERY TRACKER

OUR HIGHLIGHTS

Good Practice

Support for smart electricity grids

The RRP includes €3.6bn in funding for smart electricity grids, which will, among other things, be used to reinforce the urban electricity distribution network. This investment will help prepare the energy system for the transition to climate neutrality, including in areas such as the mobility sector. Reinforced grids will, for example, be better able to serve the needs of electric vehicles.

Bad Practice

No overall strategy for the green transition, and no strategic use of RRF funds

The resources for measures relevant to the green transition are dispersed in various smaller components and elements, e.g. in support measures for "green islands" or agrivoltaic projects, with little funding for industrial decarbonization or other important areas of the transition, especially with regards to greening electricity supply and expanding electrification. There are, moreover, significant support measures which may favor the gas sector, such as investments in biomethane and hydrogen, while a strategy for electrification and increasing renewable electricity supply is lacking. Overall, despite its size, the RRP does not provide a clear impetus for the transition to a climate neutral economy.

To Our Surprise

Very little support for directly using electricity, despite its climate importance

Especially in the transport sector, there is only a negligible amount of support for electrification, even though it is an internationally recognized strategic component of decarbonization strategies. The total investments in electric mobility are just €1.2bn. While there are further resources allocated to public transport in municipalities, it is not clear that these will support electric mobility, and there is a risk that these funds may support fossil gas vehicles. The share of investments in electric mobility is also remarkably low compared to other EU countries' use of EU recovery funding.

KEEP AN EYE ON...

- The links between the recovery plan and wider climate policy: the RRP sets out a national target of reducing emissions by 51% until 2030, relative to 1990. Notably, this target is only mentioned in the RRP and is not an official national decarbonization target. However, the plan does not specifically link individual recovery measures with this overall target. The total impacts quantified in the plan amount to a reduction of 5.6 Mt CO2e, just 3% of the necessary emission reductions until 2030. However, it must be noted that no estimates are provided for many relevant measures, including in the buildings, mobility and transport sectors.
- Lacking ambition on renewables: altogether, the RRP outlines funding for 4.2 GW of additional renewable generation capacity – just 70% of the 6 GW of capacity development that would be required in any single year to be on track for the 2030 target. This target is also significantly below the Italian national share of the European Commission's ask that member states use recovery funds to develop 40% of the 500 GW of generation capacity that is required EU-wide by 2030. The individual measures supporting renewables are fragmented and not linked to a wider strategy: there is no strategy for offshore wind, but just a generic budget of €0.6bn for offshore technologies, most likely tidal generation. The key support for solar PV (€2.2bn) is confined to municipalities of less than 5000 residents, and not accompanied by any reforms. A large amount of funding has been allocated to support the development of solar PV on agricultural land ("agrivoltaic"), with investments of €1.5bn for just 430 MW in generation capacity. Lastly, there are no financial resources or strategic reforms for developing energy storage, despite the target in the National Energy and Climate Plan of developing 10 GW of storage capacities.
- Risk of inefficient spending for energy efficiency: altogether, €22bn are allocated to energy efficiency measures. Most of this, €18.5bn, is used for a fiscal rebate mechanism ("ecobonus"). This scheme consists of a tax rebate paying back 110% of the costs of building refurbishments, leading to relatively high costs. At the same time, the mechanism is not supported by strong efficiency conditionalities, requiring an improvement of just two energy classes, and still allowing investments in fossil gas heating systems. There is also no energy efficiency strategy for the public sector, and a measure for efficiency improvements of school buildings targets just 195 school buildings out of a total of 32,000, while at the same time allocating further resources to the restructuring of buildings without conditionalities on efficiency improvements.

- No drive for electric mobility and an unbalanced allocation of funds for mobility: despite the large overall budget dedicated to mobility measures, especially high-speed rail, the RRP does not allocate many resources to the promotion of electric mobility and to the greening of local public transport. Less than 1% of the overall funds are allocated to the electrification of mobility, leading to a significant risk that Italy will fall further behind in the transition to electric mobility. Overall, there is an imbalance in the allocation of funds in the mobility sector, with a large portion of funds allocated to long- and medium-distance railways, and a lack of funds for addressing the most urgent issues in the sector. Specifically, these measures will likely do little to reduce emissions from road transport and improve air quality in cities, despite the latter being the first recommendation given by the European Commission in the European Semester process for the transport sector. According to the government's own assessment, the significant investments in high-speed rail infrastructure will only lead to emission reductions of 2.3 Mt CO2e, only a very small part of the reductions of 174 Mt CO2e that are required by 2030 overall based on the decarbonization target included in the RRP.
- Faster approval processes for new energy infrastructure: some of the reforms included in the RRP consist of speeding up the authorization process for new energy infrastructure, in line with the targets set out in the National Energy and Climate Plan (NECP). There is a risk that the proposed reform will mostly favor gas power plants, especially as the Italian Capacity Market Mechanism has already triggered requests for the authorization of ca. 15 GW of additional gas power capacity. At the same time, according to transmission system operator Terna, the peak demand of 58.8 GW is already significantly lower than the overall capacity of the existing network (119.3 GW). It is particularly problematic that thermal power plants, such as gas plants, are authorized centrally, while most renewable energy facilities must be approved at the regional level, making reforms of the process for authorizing renewable energy projects more complex. Furthermore, the reforms include potential relaxations of regulations in the authorization processes for high speed rail infrastructure, hydrogen and biomethane. While a simplification of administrative procedures is necessary in principle given the current complex public administration infrastructure, there are concerns that this may also weaken important provisions for environmental protection.

OVERVIEW: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Agrisolar park (M2C1 2.2, €1.5bn from RRF, positive – 3500€/kW) • Agrivoltaic development (M2C2 1.1, €1.1bn from RRF, very positive – 550€/kW) • Renewable energy promotion for energy communities and self-consumption (M2C2 1.2, €2.2bn from RRF, very positive) • Development of biomethane (M2C2 1.4, €1.9bn from RRF, likely climate effect but direction not assessable) • Smart grid strengthening (M2C2 2.1, €3.6bn from RRF, very positive) • R&D and supply chains for renewables and batteries (M2C2 5.1, €1.0bn from RRF, very positive)
Mobility	• Strengthening of cycling mobility (M2C2 4.1, €0.6bn from RRF, very positive) • Rapid mass transport (M2C2 4.2, €3.6bn from RRF, very positive) • Development of infrastructure for electric charging (M2C2 4.3, €0.8bn from RRF, very positive) • Fleet renewal: buses and green trains (M2C2 4.4, €3.6bn from RRF, likely climate effect but direction not assessable) • High speed railway connections towards the South (M3C1 1.1, €4.6bn from RRF, positive) • High speed rail lines in the North (M3C1 1.2, €8.6bn from RRF, positive) • Development of European Railways Transport Management System (M3C1 1.4, €3.0bn from RRF, positive) • Strengthening of metropolitan railway junctions and key national connections (M3C1 1.5, €3.0bn from RRF, very positive) • Upgrading, electrification and increased resilience of Southern railways (M3C1 1.7, €2.4bn from RRF, very positive)
Industry	• Transition 4.0 (M1C2, €4.5bn from Complementary Fund, likely climate effect but direction not assessable) • Hydrogen use in hard-to-abate sectors (M2C2 3.2, €2.0bn from RRF, positive)

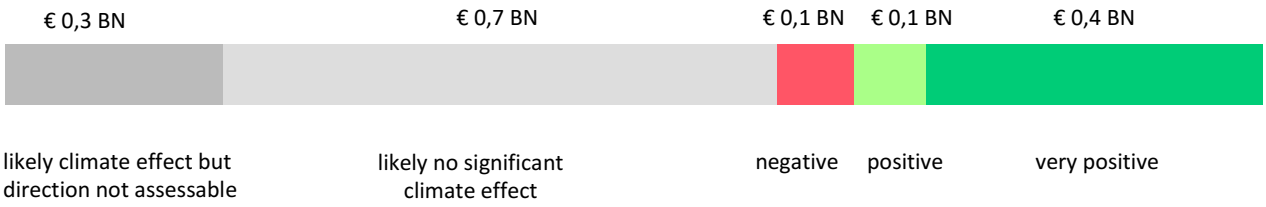
Buildings	• Substitution plan for school buildings, and energy efficiency upgrades (M2C3 1.1, €0.8bn from RRF, positive) • Energy efficiency investments – Ecobonus and Sismabonus (M2C3 2.1, €13.8bn from RRF; M2C3 3.3, €4.7bn from Complementary Fund; likely climate effect but direction not assessable) • Investments in kindergartens (M4C1 1.1, €4.6bn from RRF, likely climate effect but direction not assessable) • School buildings requalification and safety (M4C1 3.3, €3.9bn from RRF, likely climate effect but direction not assessable) • Improvements in housing quality (M5C2 2.3, €2.8bn from RRF, likely climate effect but direction not assessable)
Agriculture	• Logistic development for the agricultural, fisheries, forestry and floriculture sectors (M2C1 2.1, €0.8bn from RRF, likely climate effect but direction not assessable) • Innovation and mechanisation in the food and agricultural sector (M2C1 2.3, €0.5bn from RRF, likely climate effect but direction not assessable) • Protection and valorisation of urban and extraurban green (M2C4 3.1, €0.3bn from RRF, positive)

This report was written by Matteo Leonardi and Francesca Bellisai (ECCO) as well as Felix Heilmann (E3G). We are grateful to Johanna Lehne, Eleonora Moro and Elisa Gianelli (E3G) as well as Helena Mölter (Wuppertal Institute) for providing valuable inputs.

GREEN RECOVERY TRACKER REPORT: LATVIA

The Latvian draft Recovery and Resilience plan (RRP) was published in January 2021, following public consultations at the end of 2020. The measures of the RRP are organised into six areas: climate change and sustainability, digital transformation, economic transformation and productivity reform, health, inequality and the rule of law. Further 2% (€ 33mio.) of the total investment is planned in the field of culture and media, covering several of the components of the RRP.

Overall, the Latvian RRP includes measures worth €1.65bn (or 5% of domestic GDP). The plan makes a moderate contribution to the green transition, but falls short on ambition. Our analysis identifies the following spending shares:



In focus: Green Spending Share

We find that Latvia's draft recovery plan (RRP) achieves a green spending share of 29%, below the EU's 37% climate spending benchmark. In contrast, 6% (€0,1bn) of all measures have a negative impact. Furthermore, we find that almost 17% (€0.28 bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing only partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Green transportation system

The RRP comprises 18% of measures to green the Riga transport system, including electrification of trains, upgrades to trains to reduce GHG emissions, purchase of emissions-free public transport, building bicycle and park & ride infrastructure. These investments are essential to reduce transport emissions in the city.

Bad Practice

Lack of genuine structural reforms

The Latvian plan details a list of investment projects but does not include necessary structural reforms to ensure these investments are properly absorbed. It, therefore, falls short on one of the key goals of the EU Recovery and Resilience Facility: incentivizing critical structural reforms in member states.

To Our Surprise

The greening of transport system of Riga metropolity area

The government is planning to green the transportation system of the Riga metropole area. The measures are quite complex and target various parts of the Riga transport system. However, further actions are needed in order to change social practices like moving people from cars to greener forms of mobility.

GENERAL CONTEXT

The political debate surrounding the COVID-19 pandemic in Latvia has been dominated by discussions on the state of the economy, trying to find the balance between reducing infection rates and shutting down business activity.

Latvia's per capita GDP is much lower than the EU average (at 51%), but its economy was not hit as hard by the pandemic as many other EU countries were. In 2020, Latvia's GDP only decreased by 3.5% and it is expected to grow by 3.5% in 2021. Unemployment rates only rose by 2.1% during the pandemic.

Context indicators[1]	Latvia	EU average
GDP (2019)	**30.5 bn €**	
GDP (per capita, 2019)	**15920 €**	**31130 €**
GDP (per capita, 2020, provisional)	**15430 €**	
Debt (% of GDP, 2019Q4)	**44.6%**	**77.6%**
Debt (% of GDP, 2020Q3, provisional)	**70.0%**	**89.8%**
Unemployment Rate (December 2019)	**6.5%**	**6.5%**
Unemployment Rate (August 2020)	**8.6%**	**7.7%**
Real GDP forecast for 2020	**- 3.5%**	**- 8.3%**
Real GDP forecast for 2021	**+ 3.5%**	**+ 5.8%**
Total recovery spending	**4.44bn €**	
EU recovery funding (grants only, current prices)	**1.65bn €**	

KEY FOCUS AREAS OF THE LATVIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

Latvia's Recovery and Resiliency Plan is supposed to be based on the Resiliency Strategy for Latvia for Mitigating the Consequences of the COVID-19 Crisis (May 2020), which aims to set out a strategic framework with a comprehensive set of measures to overcome the pandemic-induced impacts on the economy, focusing not only on economic stabilization but also on economic reorientation and the exploitation of growth opportunities created by the crisis. However, the main aim of the plan is to boost economic growth. In accordance with that, the Latvian government's strategy focuses on human capital, innovation, business environment, export capacity, access to finance and infrastructure development.

So far, there has not been any recognizable public debate on the RRP measures, only few organizations have officially commented on the draft plan. There has been more public debate over some of the individual recovery measures financed from the national budget, such as a one-time payment of €500 to families for every child[1].

[1] The main discussion was if families with children are the ones suffering most from the Covid-19 related economic restrictions and whether they should deserve a special support. Later on, a similar one-time subsidy was provided also to pensioners and peoples with disabilities.

The current version of the Latvian RRP draft deals with the need to respond to the following challenges:

- High greenhouse gas (GHG) emissions and a low share of renewable energy in the transport sector, as well as low energy efficiency in the economy;
- low level of digitalization of companies and level of digital skills compared to the EU average;
- significant socio-economic differences and inequalities between Riga and other regions of Latvia;
- limited access to health services and insufficient funding in the health care system;
- productivity, which is only 50% of the EU average, low investment in R&D;
- the large share of informal economic activity and low anti-money laundering capacity;
- insufficient capacity of public administrations to implement rapid and successful reforms, insufficient knowledge in the application of public procurement and state aid rules, the high administrative burden and low level of public confidence in public administration.

To deal with these challenges the Government has divided the available resources among six priority areas: (1) Climate change and sustainability (37%); (2) Digital transformation (20%); (3) Reducing inequalities (20%); (4) Health (11%); (5) Economic transformation and productivity reform (10%); (6) Rule of law (2%).

FINANCING AND ADDITIONALITY IN LATVIA'S RECOVERY PACKAGE

Recovery measures are primarily financed from the Recovery and Resiliency Facility and co-financed mostly by other EU funds. However, some national funding sources are also included.

Most of the measures included in the package are the ones that the government has not had a chance to provide funding for before, e.g. renovation of fire stations and the renewal of educational equipment.

GOVERNANCE OF THE RECOVERY PACKAGE

According to the draft RRP, the implementation process of the Plan will be similar to the implementation process of the EU Structural funds and will be ensured within the existing management and control system, i.e. the Ministry of Finance as the Managing Authority, line ministries, including industry experts and industry authorities, the Central Finance and Contracts Agency as the liaison body.

However, there is no specific climate governance of the package foreseen. It should be noted that climate and energy policy in Latvia is supported by the National energy and climate board which is a multi-stakeholder institution chaired by the prime minister. Unfortunately, the board has not been involved in the development of the RRP.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The Latvian government released a €4bn bailout package for businesses. Most of this money was invested in the following measures[2]:

- The government covered 75% of the costs of pandemic-induced sick leave or workers' downtime, of up to €700 per month;
- A postponement of tax overdue for up to three years if the lateness in payments was due to the pandemic;
- Simplification and speeding-up of tax refunds for entrepreneurs and the decision of the Latvian government to forego personal income tax advances in 2020;
- Deferral of tax payments in crisis-affected sectors for a period of up to three years. Expected cost: €196m;
- State and local government authorities released firms from rent obligations;
- Liquidity measures for firms in all sectors: refund of the approved amount of VAT to all taxpayers within 30 days after VAT return has been submitted, as well as a VAT refund that has been carried forward in previous periods (expected cost- €60m);
- Personal Income Tax (PIT) taxpayers were exempt from advance payments for the taxation year 2020 (expected cost- €35m);
- Loans for up to 3 years for companies to finance new working capital (up to €200m);
- Loan guarantees (up to €715m), so that an enterprise facing short-term cash flow problems can postpone the payment of the principal until the situation is resolved.

The National Finance Institution Altum provided guarantees for SMEs:

- Individual guarantees of up to €5m per beneficiary, offering 50% guarantee for a maximum of two years, and;
- Working capital loans of up to €1m per beneficiary, for 18 months.

Additionally, Fintech initiatives were launched to alleviate the liquidity problems of entrepreneurs[3] and the government supported a hackathon among small firms to find solutions to the crisis[4].

The tourism sector was hit particularly hard by the crisis, impacting the national airline airBaltic, Riga Airport, and Tallink (a shipping company). AirBaltic received €250m as the government increased its share in the airline. There was no climate-conditionality attached to this support.

In 2021 additional funding was allocated to families with kids (a one-time payment of €500 per kid) and pensioners and people with disabilities (a one-time payment of €200 per person).

In 2020 the state paid almost €40m to farmers to remedy the effects of COVID-19, of which about half went to dairy farmers. In 2021, the government decided to allocate another €45.5m to the Ministry of Agriculture to support the agricultural sector, but this time most of the support was intended for pig farmers.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESSED THEM

The most important measures with an effect on the green transition are:

- Greening the transport system in the Riga metropolitan area (€295m, very positive)

  This measure includes electrification of trains, upgrades to trains to reduce GHG emissions, purchase of emissions-free public means of transport, building bicycle and park& ride infrastructure. All of the individual measures are positive in terms of reducing transport sector emissions and can potentially bring significant results in improving air quality in the city (there is currently an infringement procedure in place against Latvia over poor air quality in Riga). However, there is a risk that these measures will not be enough to change the behaviour and habits of commuters who still tend to own their own vehicles.

- Adaptation of transport and machinery required for farms (including agricultural production) and enterprises to operate with biomethane biomethane (€10m, direction not assessable)
  This reform received a lot of criticism from various environmental groups and renewable energy associations on the basis that it focuses resources primarily on the development of biomethane infrastructure, which will bring only marginal results in overall transport emissions reductions. Moreover, there is no funding for electrification foreseen (no grants or administrative or tax stimuli) for the entire transport sector (cars account for the largest share of GHG emissions from the transport sector). There were also significant concerns raised that this measure could lead to market distortions. There are concerns about the plans to make it mandatory to purchase certified biomethane (thus ensuring the demand for biomethane) for those who have been supported via the Recovery and Resilience Fund (RRF) in purchasing biomethane-powered vehicles or retrofitting existing vehicles for the use of biomethane (municipalities, the fire service, and farmers). These beneficiaries could end up being obliged to purchase more expensive energy. The plan, moreover, is to connect this newly built biomethane infrastructure to existing fossil gas infrastructure (the fossil gas industry will be providing service for the biomethane compression). There is a risk, therefore, that this measure might lock-in continued fossil gas use.

- Improving the energy efficiency of apartment buildings and the transition to the use of renewable energy technologies (€37m, very positive)
  The measure includes improving the energy efficiency of apartment buildings through renovation measures and scaling up the use of renewable energy technologies in buildings. The measure itself could potentially have a high positive impact on emissions reductions and could, critically, also reduce energy poverty. However, too little funding has been allocated for this investment (it is

planned to renovate 182 multiapartment buildings) and there remains a risk that it will fall short of achieving the target of renovated apartment buildings by the year 2030 (According to the Latvian Energy Strategy 2030, the average energy consumption of multifamily building stock should be decreased from the actual 160-180 kWh/m^2 to 100 kWh/m^2 until 2030). There is, moreover, considerable funding for renovating public sector buildings (€54.9 million) relative to multi-apartment buildings (€36.63 million), despite the fact that it is much easier for the state and municipalities to borrow funds for such purposes than it is for residents in multi-apartment buildings to do so.

- Investments in GHG emissions sequestration and promoting forest sustainability - replacement of unproductive forest stands, afforestation, care of young forest stands. (€22m, direction not assessable).
  This investment can be seen controversial as e.g. so called 'unproductive' forests are in many cases habitats of the utmost European importance. Yet there have been no guarantees provided that this measure will not destroy or negatively affect these habitats. This measure also raises doubts over whether it will provide a net-positive impact from an emissions perspective. These activities would allow for long-term CO_2 absorption from the atmosphere only if it was ensured that the harvested wood is used exclusively for building materials and furniture; however, the measure lacks sufficient guarantees that the timber will not end up being used for activities that result in absorbed CO_2 being released back into the atmosphere.

The package also contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative:

- **Inequality**
  Road renovation in rural (and infrastructurally less connected) regions as part of the following measure: "Administrative territorial reform, improvement of the national regional and local road network for the accessibility and safe accessibility of the administrative centers of the new counties and the services and jobs provided therein" (€102m, negative)
- **Economy**
  An innovation cluster program, which focuses on increasing R&D capacity for businesses – with the intention of increasing productivity, higher added value product, as well as new product development (€78m, direction not assessable).

A further overview of the most important measures by sector can be found in the annex, below.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	Most important measures with an impact on the green transition
Energy	• Biomethane infrastructure development for use in transportation - although this measure is formally included under support for transportation, it might be more important for the energy sector in long-term due to plans to connect it with fossil gas infrastructure (€0.01bn, direction not assessable) • Establishment of a system of proofs of origin for biomethane (€0.02bn, positive)
Mobility	• Measure within Latvian RRP 'The greening of the transport system of Riga metropolis area' (€0.3bn, very positive) • Improvement of the national regional and local road network for the accessibility and safe accessibility of the administrative centers of the new counties and the services and jobs provided therein (€0.1bn, negative)
Industry	• Support for increasing energy efficiency in business (including the transition to the use of renewable energy technologies in heat supply and related research and development activities (including bioeconomy) (€0.08bn, very positive)
Buildings	• Energy efficiency measures for multi-apartment buildings (€0.04bn, very positive), private enterprises and municipal (€0.03bn, very positive) and state buildings (€0.03bn, positive)
Agriculture	• Flood prevention infrastructure upgrade measures, forestry production improvement measures under RRP (€0.02bn, direction not assessable)
Cross-cutting	• Increasing energy efficiency in business (including the transition to the use of renewable energy technologies in heat supply and related research and development activities (including bioeconomy), which is planned to be implemented nationally in the form of a combined financial instrument (€0.08bn, very positive) • Modernization of administration and digital transformation of services, including the business environment (€0.07bn, direction not assessable) • Support for the creation of a network of Digital Innovation Centers and regional digital agents (€0.01bn, direction not assessable) • Support for process digitization in business to increase productivity (€0.04bn, direction not assessable) • Support for the introduction of new products and services in business (€0.03bn, direction not assessable)

This report was written by Lilija Apine, Janis Brizga (both Green Liberty) and Magdolna Prantner (Wuppertal Institute). We are grateful to Helena Mölter, Timon Wehnert (both Wuppertal Institute), Johanne Lehne and Felix Heilmann (both E3G) for providing valuable inputs.

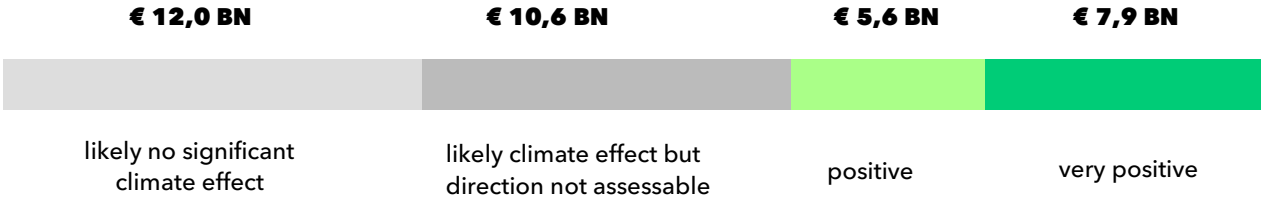
REFERENCES

[1] Eurostat: https://ec.europa.eu/info/sites/info/files/economy-finance/ip132_en.pdf
[2] https://www.intellinews.com/baltic-states-roll-out-fiscal-measures-to-prop-up-coronavirus-stricken-economies-178945/
[3] https://www.crowdfundinsider.com/2020/03/158999-latvia-headquartered-citadele-bank-contributes-e10-million-to-fintech-sme-finance-offers-loan-relief-to-clients-during-coronavirus-pandemic/
[4] https://www.genglobal.org/startup-nations/hack-crisis-idea-execution-just-6-hours

GREEN RECOVERY TRACKER ANALYSIS: POLAND

After completing a consultation on the draft originally presented on February 26, 2021, the Polish government submitted its National Recovery and Resilience Plan (RRP) to the Commission on April 30, 2021, while at the same time requesting another month for additional modifications before the European Commission launches its official assessment. The RRP lays down reforms and investments that will together cost €23.9bn in grants and €12.1bn in loans (Poland could still apply for an additional €21.1bn in loans).

Our analysis shows that overall, the investments envisaged by the plan can make a positive contribution to the green transition. However, while the RRP includes measures that have the potential to fast-track and scale-up decarbonization efforts, the lack of detail and the lack of tangible targets attached to the measures proposed make it impossible to say whether the plan will be able to fully realize that potential and to what extent it will contribute to the EU climate policy targets. This is reflected in the spending shares we identified:



In focus: Green Spending Share

We find that Poland's recovery plan achieves a green spending share of 28%, below the EU's 37% climate spending benchmark. Notably, when only considering the measures financed through grants, the plan achieves a green spending share of just 13%. At the same time, 29% of the spending may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. The government itself claims that the plan achieves a climate share of 48.3% (18.2% among the grants; 68.3% among the loans).

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

GREEN RECOVERY TRACKER

OUR HIGHLIGHTS

Good Practice

Support for developing the renewable energy industry

Poland's recovery plan includes significant support measures for the offshore wind industry. Following recommendations provided through the public consultation process, the government has tailored the use of financial instruments to increase the economic efficiency and effectiveness of the investment. Port infrastructure for offshore wind (terminals etc.) will be supported through grants (€437m), whilst the development of offshore wind farms (1500 MW) will be supported through loans (€ 3 250m).

Bad Practice

Weak strategic planning for the green transition

The recovery plan does not foresee a revision of national strategic documents to align them with the EU's 2030 and 2050 climate targets and does not envisage the implementation of key frameworks such as the long-term decarbonization strategy. The legislative changes that are included in the document are not sufficient to fast-track the green transition (e.g. some still enable support for investments in gas) or unlock necessary investments in key sectors (e.g. climate adaptation of urban areas). Investments described in the plan rarely include specific (climate) targets, conditionalities or performance indicators for individual support measures, making it difficult to see how progress will be monitored and how it will contribute to the national and EU climate targets.

To Our Surprise

Low ambitions on the development of rail transport

The recovery plan offers substantial support for the rail sector, with total investments of €3.4bn in grants and €700m in loans. However, the measures envisaged will support upgrades of existing rail lines and purchase of rolling stock, while no expansion of the rail network is planned.

KEEP AN EYE ON...

- ...the link between the recovery plan and broader climate policy: most of the climate-relevant measures in the RRP refer to the Polish National Energy and Climate Plan (NECP) and the 2040 Energy Policy (PEP2040). However, the plan does not offer quantitative information regarding its contribution to the achievement of the objectives of these policy frameworks. Only very few measures include climate conditionalities or quantitative green targets, and the majority of the climate-relevant measures do not have assigned targets that would make it possible to track their success. Furthermore, Poland's domestic energy policy is not yet aligned with the EU's increased 2030 GHG emissions reduction target and the transition to climate neutrality by 2050. Broader political and regulatory initiatives will therefore be necessary.
- ...measures that may support fossil fuels: the lack of detailed information on some measures makes it impossible to exclude the possibility that they may at least partially support fossil fuel projects. These include €300m allocated to investments in heating systems which are going to include support to combined gas heat and power plants (that meet a 250 g CO2e/kWh emissions performance standard), €3,201m (€3.2bn) for a major residential energy efficiency program that may, besides much-needed investments into energy efficiency improvements, also support the roll-out of gas boilers for decentralized heat generation, €800m allocated to the development of hydrogen technologies and other alternative fuels, which could include support for fossil gas transport infrastructure, as well as €1,131m for the purchase of buses that use alternative fuels including fossil fuels such as CNG, LNG and LPG. Due to the risk of these measures (partially) supporting fossil gas projects we assess them as "likely climate effect but direction not assessable".
- ...the 'do no significant harm' (DNSH) principle: the plan does not contain a detailed explanation of how each measure conforms to the principle. It offers only a general statement that all the measures have been reviewed for compliance by a consultancy, however, a report of that review has not been made public. Moreover, in many cases the measures consist in support schemes that will provide finance to projects that will be selected at a later stage, and the plan does not specify how DNSH compliance is going to be assured. The risk of non-compliance is particularly high in the case of the measures concerning water management (which could support harmful grey infrastructure as well as legal reforms undermining biodiversity safeguards in water management), development of investment grounds (which can have negative deforestation and biodiversity impacts), and the construction of network infrastructure (which can have negative impacts on protected areas that may not be prevented under the EIA laws currently in force in Poland).

- …the design of financial instruments (grants vs. loans): after public consultations the government has included in the RRP also a strategy for the disbursement of €12.1bn (out of €34.2 bn available) from the RRF's loan component. While for a majority of investments for which the financing instrument has been changed from grant to loan the move makes economic sense due to their market maturity, there are some cases (mostly investments in public goods) for which the use of repayable loan is not justified (e.g. investments in the neutralization of threats and restoration of large degraded areas and the Baltic Sea; investments in the green transition of cities and their functional areas). For such investments it is unlikely that they will generate the return needed to attract private capital and thus it remains unlikely that they will happen at all, which may undermine the objective of dedicating 37% of RRF funds to climate-related investments. At the same time, the government intends to support investments through grants for which there is a business case that would allow them to sufficiently benefit from loans (e.g. support for low-carbon economy; development of transmission networks, smart grid infrastructure).
- …the interplay of the recovery plan with other EU and national funds: the government is currently planning the operationalization of several financing mechanisms, that will, at least partially, also support the green transition, including the Modernization Fund, the Just Transition Fund, the Cohesion Policy funds, and a new national fund financed through ETS revenues. The RRP does not cover how the measures supported through the RRF and these other funds will be aligned to ensure they are mutually reinforcing and complementary. All it does is state that RRP implementation and management of structural funds under the Partnership Agreement will be dealt with by the same institutional structure and projects will be assigned to one or the other source of funding based on their maturity and implementation timeframes.
- …the additionality of the plan's measures: The plan emphasizes, in several instances, that the envisaged funds from the RRF will not fully cover the investment needs associated with the given measures, without an indication of the scale and possible sources of the remaining funds. Furthermore, the available information does not make it possible to identify whether the RRP's funds will be used to cross-finance previously planned or existing programs. Some of the investments included in the RRP will certainly support existing programs or enable their expansion, but it remains unclear whether this will affect the scale of their funding from other sources.
- …how the plan's implementation will be monitored: the RRP is short on quantitative performance indicators and does not set adequate indicators, offering limited to no detail on impact, which will render it difficult to assess RRP's performance. While the RRP does describe an institutional setup for control and audit, there are no provisions of how transparency of implementation will be assured. A Monitoring Committee is to be set up as the main body in charge of ensuring correct implementation, but the plan

is not clear on how its members will be appointed, what support they will get from the governmental administration, or what powers the Committee will have – those aspects will only be defined later in a separate law. It will be crucial to ensure that the Committee has the capacity to effectively perform its role, especially since essential aspects, such as compliance with the 'do no significant harm' principle, are not yet sufficiently safeguarded and will need to be monitored and enforced during implementation.

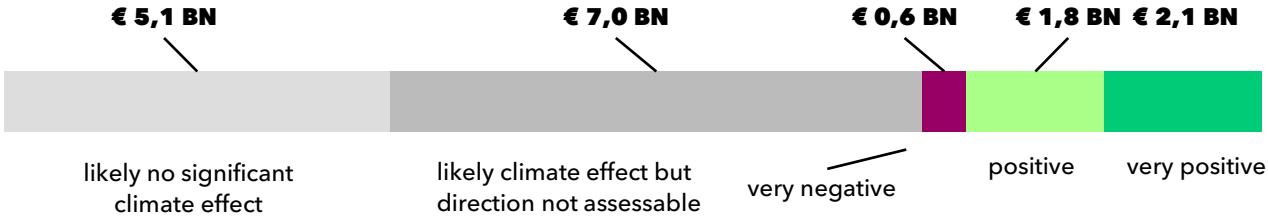
OVERVIEW: MOST IMPORTANT MEASURES OF THE RECOVERY PLAN BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Hydrogen (€0.8bn, likely climate effect but direction not assessable) • Renewable energy in energy communities (€0.1bn, very positive) • Terminal infrastructure for offshore wind energy (€0.4bn, very positive) • Development of offshore wind farms (€3.3bn, loan, very positive) • Energy storage facilities (€0.2bn, loan, very positive) • Heating systems (€0.3bn, likely climate effect but direction not assessable) • Development of electricity transmission networks (€0.3bn, very positive)
Mobility	• Investments in railway lines – improving infrastructure (€2.4bn, positive) • Transport safety (€0.7bn, likely climate effect but direction not assessable) • Zero and low-emission public transport (€1.1bn, likely climate effect but direction not assessable) • Investments in passenger rolling stock (€1.0bn, positive) • Passenger rolling stock for regional railways (€0.5bn, positive)
Industry	• Support for a zero-emission economy (€1.1bn, positive) • Energy efficiency and renewable energy in enterprises (€0.3bn, very positive)
Buildings	• Replacement of heat sources and energy efficiency in residential buildings (€3.2bn, likely climate effect but direction not assessable) • Thermo-modernization of schools (€0.3bn, very positive) • Investments in green multi-dwelling residential buildings (€1.2bn, likely climate effect but direction not assessable)

This report was written by Izabela Zygmunt (WiseEuropa), Zofia Wetmańska (WiseEuropa) and Felix Heilmann (E3G). We are grateful to Joanna Fabiszewska (WiseEuropa) as well as Johanna Lehne (E3G) for supporting the review process.

GREEN RECOVERY TRACKER REPORT: PORTUGAL

Portugal presented a first draft of its national recovery and resilience plan (RRP), alongside a broader 2030 National Investment Plan, already in October 2020. Our analysis is based on an updated version of the draft RRP that was presented for public consultation in February 2021, and our database of individual recovery investments has been updated according to the final RRP released in April 2021. Overall, Portugal's recovery measures, with a total spending of €16.6bn, or 8% of Portugal's GDP, have the potential to make a positive contribution to the green transition depending on their implementation., as our analysis identifies the following spending shares:



Positive measures include investments into industrial decarbonization, public transport, and energy efficiency. At the same time, the plan includes some problematic investments, especially in road infrastructure, and has been criticized for this by the European Commission. Lastly, it includes many measures whose climate mitigation effect cannot yet be assessed and depends on their implementation, such as investments into new housing projects and industrial development. Notably, the draft RRP does not offer many concrete links between its projects and the broader agenda of the 2030 National Investment Plan or wider climate policy goals.

In focus: Green Spending Share

We find that Portugal's recovery plan (RRP) achieves a green spending share of 17%, below the EU's 37% climate spending benchmark. In contrast, 3.5% of all measures have a negative impact. Furthermore, we find that 42% may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. According to the government, the plan's climate spending is 38%.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Investments in nature-based solutions

Portugal's RRP includes a total of €615m of investments into forest management and cultivation. This measure, which will be implemented by the Environment and Climate Ministry, is presented as an important resilience measure for rural territories, combining climate change mitigation and long-term resilience, even though its overall funding falls short of the overall investment needs previously identified for this area.

Bad Practice

Road investments

Portugal's Recovery Plan includes significant investments into the country's road infrastructure, with many of these measures aiming to expand the national road network. These include the expansion of cross-border road links with Spain although there are already six cross-border highways, as opposed to only two poorly served cross-border rail connections for passengers. In March 2021, the European Commission has criticized the inclusion of these projects.

To Our Surprise

Pushing the decarbonization of the industrial sector

Portugal included a program for industry decarbonization in its Recovery Plan, the first time the government referred explicitly to industry decarbonization in an investment plan.

GENERAL CONTEXT

Portugal's centre-left government has been in power since 2015. It has managed to boost economic growth after years of recessions while rolling back austerity policies and has been relatively popular. Nonetheless, the country entered the COVID-19 crisis period with a high level of public debt due to financial assistance it previously received from the EU, ECB and the IMF between 2011 and 2014. Before the COVID-19 crisis, the political debate in Portugal was largely dominated by healthcare issues, especially the lack of investments in healthcare infrastructure and personnel, and corruption, as well as employment and wages.

The government's climate policy prior to the crisis has received largely positive reviews, thanks to the approval of a national 2050 climate neutrality target in 2019, a timely coal phase-out, expected for 2021, and a strong expansion of renewable energies. Portugal greatly benefits from excellent conditions for renewable energy, achieving a global minimum for solar energy prices in 2019. However, the government has also been criticized by environmental groups, including over the expansion of the Lisbon airport in vicinity to an important nature reserve, as well as lithium mining projects in the north of the country. Furthermore, a better integration of Portugal's economic activities and climate objectives was identified as a shortfall of the government's actions before the crisis.

The preparation of Portugal's recovery plan coincided with the development of a separate 2030 National Investment Plan which was already being developed prior to the crisis. With an overall envelope of €43bn, the National Investment Plan details the key planned infrastructure projects over the next ten years and is partially funded through Portugal's Recovery and Resilience Plan. Our analysis focusses on the draft RRP.

Context indicators[1]	**Portugal**	**EU average**
GDP (2019)	**213.3 bn €**	
GDP (per capita, 2019)	**20740 €**	**31130 €**
Debt (% of GDP, 2019Q4)	**117.2 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**130.8 %**	**89.8 %**
Unemployment Rate (December 2019)	**6.7 %**	**6.5 %**
Unemployment Rate (August 2020)	**8.1 %**	**7.7 %**
Unemployment Rate (December 2020)	**6.5 %**	**7.5%**
Real GDP forecast for 2020	**- 7.6 %**	**- 6.8 %**
Real GDP forecast for 2021	**+ 4.1 %**	**+ 3.7 %**
Total recovery spending	**16.6 bn €**	
EU recovery funding (grants only)	**13.9 bn €**	

KEY FOCUS AREAS OF THE PORTUGUESE RECOVERY DEBATE AND THE RECOVERY PACKAGE

At the presentation of Portugal's recovery plan on 14 October 2020, Prime Minister Costa spoke of a "triangle of priorities in the recovery plan: reinforcing resilience and focusing on climate and digitalization as drivers for economic growth". He argued that "economic recovery is not about returning to the situation where we were before the crisis – it means coming out of the crisis stronger". This direction was echoed by Environment Minister Fernandes, who argued that the recovery plan would help better prepare the country for emissions reductions as "climate is at the heart of economic growth". In the recovery plan, these priorities are reflected in the three high-level priorities of (1) resilience, (2) green transition and (3) digital transition.

After the presentation of the recovery and resilience plan, the debate focused on digitalization measures, green hydrogen projects as well as infrastructure investments, including a new high-speed rail connection from Lisbon to Vigo (Spain). The final plan was well-received by most stakeholders. Industry association CIP in particular welcomed the digitalization measures as well as the creation of a National Development Bank. Trade unions, too, supported the plan, while criticizing that its measures insufficiently addressed the issue of structurally low wages.[2] The centre-right parliamentary opposition criticized an overly strong reliance on public relative to private investments in the plan.[3]

Nonetheless, comparing the final plan with prior contributions from green groups on long-term investment priorities, some shortcomings become apparent.[4] For example, the plan includes multiple contradictions, such as identifying the need to reduce emissions from the transport sector while still considering mass tourism as a key growth sector or recognizing that water resources must be carefully managed while also including measures to construct new dams. Furthermore, it can be criticized that the plan's projects are too focused on large-scale projects from which mainly large, incumbent companies stand to benefit, without significant support for decentralized projects for example in the context of the energy transition. In March 2021, the new draft version of the RRP was criticized by the European Commission due to the planned funding for road infrastructure and dams.[5]

FINANCING AND ADDITIONALITY OF PORTUGAL'S RECOVERY PACKAGE

Portugal's recovery measures are partly implemented as part of a 2030 National Investment Plan that was already in preparation before the COVID-19 crisis hit. The Portuguese National Recovery and Resilience Plan includes some, but not all, of the measures of the overall investment plan, which is also financed through the national budget as well as the EU's Multiannual Financial Framework (MFF 2021-2027). While a considerable share of the measures that had previously been planned in the context of the national investment plan are included in the national recovery plan, the recovery plan also includes new and helpful measures, especially in the areas of social policy, housing, education and digitalization.

Overall, Portugal will be using €13.9bn in grants through the EU's Recovery and Resilience Facility, the full available envelope, as well as €2.7bn in loans, with the government stressing its intention to use as little of the volume of loans as possible to avoid further increasing the public debt.

GOVERNANCE OF THE RECOVERY PACKAGE

Portugal's draft Recovery and Resilience Plan describes a complex governance structure, consisting of a political coordination level including the Ministers for Economy, Finance, Planning and Environment as well as the Presidency and a level for the technical management of the funds. National civil society organizations have criticized the lack of a formal and effective role for civil society organizations in this process, and a potentially unclear distribution of responsibilities between the different Ministries and political actors involved in the governance of the plan. Furthermore, observers have noted that none of the technical entities tasked with managing the implementation of the plan include technical experts from environmental policy, and that municipalities and local governments are set to only play a strongly limited role in the plan's implementation. Lastly, civil society organizations criticized the consultation process for the draft RRP for its short deadline and the lack of details on at least some measures.

According to the government, the plan achieves a 38% share of climate spending, while the analysis based on our methodology identifies 17% green spending. The key reason for this divergence is that the government's climate tracking attributes a (high) climate spending share to measures which we cannot yet assess as making a positive contribution to the climate transition, such as significant investments in new housing projects and the capitalization of the national development bank. This can also be seen in the very high share of spending (42%) of spending that we assess has having a likely climate effect which is not yet assessable.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

To provide liquidity to the economy, Portugal's government initially allocated €600m per month to temporary furlough support programs, a measure that was later replaced by a €1.3bn package of financial incentives to support a stabilization of business activity. Furthermore, the state provided up to €13bn of state-guaranteed credit lines for small and medium enterprises and offered €7.9bn of tax and social security deferrals for companies and employees. In November 2020, the government passed further measures worth €1.6bn to stabilize the economy.[6] Furthermore, the government has provided a €1.2bn loan to the national airline TAP and increased its shareholder position, investing €55m to achieve a 72.5% position. While these initial steps were not linked to any binding climate conditionalities, a flight tax was approved in November 2020 with the support of the government's main party.

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

During the crisis, Portugal has taken several policy decisions which strengthened the domestic climate agenda. First, on July 30, the Portuguese government announced a national hydrogen strategy, including estimated investments (mostly private) of €7bn. The objective is for hydrogen to represent 5% of the final energy consumption by 2030, to reduce natural gas imports by between €380m and €740m and to create up to 12,000 new jobs. Second, in August 2020, a tender for 700MW of additional solar energy capacity, including battery storage for 75% of the tendered capacity, resulted in record low prices for both technologies. Third, in May, the government launched an Integrated National Wildfire Management Program which aims to improve the governance around forest management and identify measures to reduce wildfire risk. Also, a program aimed at reintroducing autochthonous, more fire resilient, species was launched, and later incorporated in the national recovery plan.

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Investments into hydrogen (measure C14-1; €0.2bn, very positive)
Mobility	• Road infrastructure investments (component C7; €0.6bn, very negative) • Investments in public transport and rail infrastructure (component C15; €1.0bn, very positive)
Industry	• Industry decarbonization program (measure C11-1; €0.7bn, very positive) • Reindustrialization program (measure C5-1; €0.6bn, likely climate effect but direction not assessable) • Green Agenda for Reindustrialization (measure C5-2; €0.4bn, positive)
Buildings	• Investments in housing projects (component C2; €2.8bn, likely climate effect but direction not assessable) • Investments in energy efficiency (component C13; €0.6bn, positive)
Agriculture, land use and forestry	• Measure to increase resilience of vulnerable forest territories (measure C8-1; €0.3bn, positive) • Measures to fight forest fires (measures C8-3/-4/-5; €0.3bn, positive)

This report was written by Felix Heilmann, Artur Patuleia and Alexander Reitzenstein (all E3G) as well as Jacqueline Klingen (Wuppertal Institute). We are grateful to Bárbara Maurício (ZERO) as well as Helena Mölter and Timon Wehnert (Wuppertal Institute) for their support.

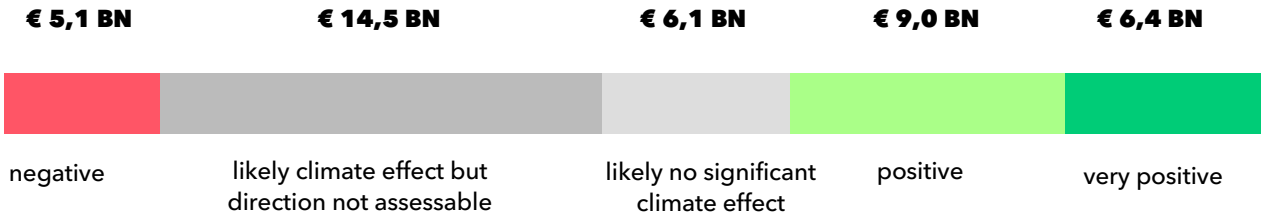
REFERENCES

[1] European Commission (2021). Winter 2021 Economic Forecast; Eurostat; own analysis
[2] ECO (2020). CIP elogia aposta do Plano de Recuperação em melhorar a Função Pública porque isso ajuda as empresas
[3] SIC Noticias (2020). PSD apresenta "programa estratégico" para fundos europeus da próxima década
[4] ZERO (2020). Parecer sobre a "Visão Estratégica para o Plano de Recuperação Económica de Portugal 2020-2030"
[5] Público (2021). Bruxelas quer barragens, estradas e pontes fora do PRR
[6] IMF (2020). Policy Responses to COVID-19

GREEN RECOVERY TRACKER REPORT: ROMANIA

Romania's COVID recovery package (the National Plan for Recovery and Resilience) was presented in its first version in late 2020. Following a call to rewrite the plan, in particular concerning the lack of focus on the green transition and digitalization, the second version of the Plan was published in March 2021. The public debate around the Plan, launched on March 19th, has been scarce.

Overall, the total funding allocated by the EU to Romania's Recovery and Resilience Plan was reduced to €29.2 bn (or 13% of domestic GDP), after the recalculation of the Romanian GDP in 2020 compared to the European average[1]. According to the new RRP, the Government requests an allocation of €41.14bn - almost €11bn more than the initial allocation. Overall, Romania's recovery measures make a positive contribution to the green transition, although the ultimate contribution of the recovery measures cannot yet be fully assessed as public versions of the RRP lack details on the design of specific recovery measures beyond the overarching elements of the plan our analysis identifies the following spending shares:



In focus: Green Spending Share

We find that Romanian draft recovery plan (RRP) achieves a green spending share of 24%, below the EU's 37% benchmark. In contrast, 12.8% (€5.1bn) of all measures have a negative impact. Furthermore, we find that 35% (€13 bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

The Romanian government has framed the Plan as an opportunity to create structural change in a nation which still suffers from significant shortfalls in infrastructure, education and healthcare. Infrastructure development, including large budgets for road and rail transport, water management, natural gas networks and healthcare, has been highlighted as a key priority for the package. Modernization and future-proofing of Romania's public systems, in particular public administration and healthcare, are at the core of significant proposals for digitalization across multiple sectors. Finally, the Plan has prioritized regulatory changes leading to structural reform in several sectors, principally to address Romania's large-scale poverty, but which also include reforms to the justice system and the energy sector where legislative measures are proposed to facilitate investment in renewable energy.

OUR HIGHLIGHTS

Good Practice

Renovation wave

The Plan's "Renovation Wave" element is well-tailored to the reality of Romania's built environment impact. Given the substantial proportion of historical buildings classified as cultural landmarks, this element includes specific measures for upskilling contractors for historical building renovations and reusing historical building construction materials.

Bad Practice

Missing specific renewable energy and energy efficiency targets

The Plan's "Renewable Energy and Energy Efficiency" component does not set specific targets, in particular milestones for coal phase-out, or specify how they will be enshrined into relevant climate law. More detail is required to robustly link the proposed measures to Romania's National Integrated Plan for Energy and Climate Change, in particular its proposed decarbonization plans for large coal producers.

To Our Surprise

Via Transilvanica

One of the Plan's proposed measures for improving cycling will provide funding fora mature community-led project. Initiated in 2018, its mission is to build 1,000 km of paths suitable for walking, cycling or horse-riding, crossing Transylvania. To date, 685 km have been built using private funding.

GENERAL CONTEXT

Romania has the largest share of people living in poverty in the EU (23.5%) and the highest income gap. Low educational attainment and healthcare access are long-term issues, with Romania having the second-lowest government spending on education in the EU. This has resulted in a chronic rate of dropout and poor future-proofing of the workforce, particularly when it comes to digital competencies. Another crucial element of the political and economic debate in Romania has been healthcare. Romania's healthcare budget allocation per capita was the lowest in the EU, and this significant underinvestment has led to an overwhelming strain on health services in the COVID pandemic.

A crucial part of Romania's political and economic debate, both before and during the COVID pandemic, has been the lack of infrastructure. Education and healthcare development are both in need of significant infrastructure expansion and upgrading, as are Romania's roads and buildings. Infrastructure development has been a core part of the government's narrative around the Romania's recovery package, which includes €4.5 billion earmarked for improvement of roads and motorways. Investing in Romania's basic infrastructure for roads and motorways has been quoted as an "opportunity not to be missed" when it comes to the recovery package.

When it comes to the green transition, Romania faces several major challenges. Firstly, as a country with traditional regional dependencies on coal and gas, it must phase out fossil fuels through a just transition for workers and local economies. This will require substantial investment and infrastructure development in regions such as the Gorj and Jiu valleys. Secondly, Romania's power grid is in need of substantial expansion and reinforcement to enable additional renewable energy capacity (such as onshore and offshore wind resource) and to integrate the recently-liberalized energy market into other energy markets in the region. Thirdly, air pollution is extremely high, with Romania ranking 7th in the EU for premature deaths caused by air pollution, due to poor transport policies, low investment in electric vehicles and inadequate routes for active travel[2]. Car ownership has doubled in the last decade, with a substantial increase in diesel engine use and an average age of the car fleet 4 years above the EU average[3]. Finally, climate adaptation, including afforestation, is a major challenge to Romania. Romania is one of the most flood-prone countries in the EU, and

the capital Bucharest ranks third for fastest-warming temperatures in the EU's 58 largest cities[4]. On the other hand, Romania's substantial forest cover is shrinking; the country has more than 525,000 hectares of virgin primary forests, more than any other country in the EU outside of Scandinavia, however the control and management of logging is fraught with issues[5].

Context indicators[6]	**Romania**	**EU average**
GDP (2019, provisional)	**223 bn €**	
GDP (per capita, 2019)	**11 510 €**	**31170 €**
GDP (per capita, 2020, provisional)	**11 290 €**	**29 640**
Debt (% of GDP, 2019Q4)	**35.3 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**43.1 %**	**89.8%**
Unemployment Rate (December 2019)	**3.9 %**	**6.5 %**
Unemployment Rate (August 2020)	**5.3 %**	**7.7 %**
Unemployment Rate (December 2020)	**5.2 %**	**7.5%**
Real GDP forecast for 2020	**- 5.0 %**	**- 6.8 %**
Real GDP forecast for 2021	**+ 3.8 %**	**+ 3.7 %**
Total recovery spending	**€41.1 bn**	
EU recovery funding	**€29.2 bn**	
EU recovery funding (grants only, current prices)	**€14.2 bn**	

KEY FOCUS AREAS OF THE ROMANIAN RECOVERY DEBATE AND THE RECOVERY PACKAGE

As approved by the Romanian Government for negotiation with the European Commission, Romania's recovery package contains 6 pillars and 30 overarching elements, many with long lists of individual measures. €17.8 bn are earmarked for large infrastructure programs in road and rail transport, urban mobility, water and waste management and healthcare. The Green Transition has a budget of €15.3 bn, including €4 bn for climate adaptation, and other elements of the package are associated with "green transition principles", including development of cities, towns and villages, and active transport.

The Romanian government has framed the Plan as an opportunity to create structural change in a nation which still suffers from significant shortfalls in infrastructure, education and healthcare. Infrastructure development, including large budgets for road and rail transport, water management, natural gas networks and healthcare, has been highlighted as a key priority for the package. Modernization and future-proofing of Romania's public systems, in particular public administration and healthcare, are at the core of significant proposals for digitalization across multiple sectors. Finally, the Plan has prioritized regulatory changes leading to structural reform in several sectors, principally to address Romania's large-scale poverty, but which also include reforms to the justice system and the energy sector where legislative measures are proposed to facilitate investment in renewable energy.

Although the second version of the Plan was released for public debate on March 19th 2021, there has been little public discussion around its proposals. Broadly, much of the criticism has been related to the lack of detail in the Plan's proposed measures, as well as its "wish-list" semblance. Several highlights include criticism on allocation of the budget to the private sector and research, development and innovation, as well as a firm stance from the government on securing €4.5 bn for infrastructure development on roads and motorways. It should be noted that, in its first version, the Plan received substantial criticism on its handling of the green transition from environmental NGOs, criticisms which are still present in the second version of the plan, in particular on the lack of key elements such as grid reinforcement and offshore wind in energy-related measures, and the approach to afforestation and its lack of underpinning structural reform. According to recent reports, the European Commission has criticized the inclusion of irrigation works and a too strong focus on transport infrastructure in the RRP, stating that these cannot be funded by the Recovery Facility.[7]

FINANCING AND ADDITIONALITY OF ROMANIA'S RECOVERY PACKAGE

All measures in the Plan are requested to be financed by the EU Recovery and Resilience Facility through grants and low-interest loans. No significant detail is provided on how this funding will be distributed and governed once it is agreed. Certain recovery measures in the package highlight cooperation with EU institutions in view of research, development and innovation funding (e.g. Horizon Europe), however any further detail on how Romania's recovery package will be financed is absent from the Plan.

A large proportion of the recovery measures, and the narrative framing them, is around infrastructure development and modernization. Romania is in desperate need of reform in both these aspects, which cut across healthcare, social care, energy and climate, mobility and education. The Plan is thus not necessarily additional to Romania's pre-existing needs (save measures for vaccination and post-pandemic economic recovery, e.g. the arts and culture sectors), because these have only been deepened and highlighted further under the COVID crisis. The country is also an important recipient of programs under the 2021-2027 Multiannual Financial Framework, including €26.8 bn of the Cohesion Policy (which prioritizes green transition and digitalization, as well as strategic transport networks) and €1.9 bn of the Just Transition Fund. Further analysis is required against a more detailed Plan, to determine which measures are additional to existing plans and programs under Romania's MFF allocation.

The recovery plan has been highlighted by the government as an "opportunity not to be missed", at least when it comes to upgrading and expanding Romania's road infrastructure, a crucial development priority. As such, it can be said that many of the Plan's measures address long-term socio-economic issues, and that the Recovery and Resilience Facility offers an opportunity to implement these measures for future development and resilience in the face of crises. Whether or not these measures can be successfully implemented in the timelines of the RRF is still a subject of discussion.

GOVERNANCE OF THE RECOVERY PACKAGE

The Plan refers to international environment and climate agendas, including the European Green Deal, as well as Romania's National Climate and Energy Plan (2021-2030), which proposes a national target of 30.7% renewable energy by 2030.
Following the first draft of this Plan, the Commission recommended Romania to increase its proposed share of RES from 27.9% to 34%; however, the final Plan sets a 30.7% target which falls short of the Commission's recommendation.[8]

In the recovery plan only few specific measures link robustly to these policies and associated targets. There is also reference to a National Climate Law, with little detail other than it will be developed following the revision of Romania's long-term emissions reduction strategy, and would be accompanied by an action plan for emissions reduction between 2021 and 2030.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

Few short-term liquidity or state aid measures are specified in the Plan. €77 million are earmarked for the cultural and arts sector, including post-Covid recovery (although no detail is given on the financing mechanisms). Some measures could be argued to be short-term aid measures, for example grants for equipment to facilitate virtual learning, however little detail is provided as to whether they represent a short-term injection for the crisis and recovery phase. It is not specified whether climate aspects played any role in deliberations on these measures.

More liquidity and state aid measures have been implemented under the EU Temporary Framework for State Aid, rather than incorporated into the Recovery Plan. Measures with potential climate impact included bailouts for the aviation industry (€7.1 M in direct grants to regional airports and specific airlines and a total of €81.3 M in Romanian loan guarantees to TAROM and Blue Air); direct grants to support agriculture producers (€47.4 M to support pig and poultry breeding and €12.4 M to support wine producers) and, recently, €500 M in direct grants to tourism, hospitality and food services, affected by the pandemic (April 2021). Finally, the Ministry of Economy is still issuing funding to support SMEs, from a €1 bn state aid package, with no climate conditionality attached.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important measures with an effect on the green transition are:

- Afforestation. We assessed Romania's plan to establish plant nurseries and afforest and reforest suitable land as "positive", given its contribution to carbon capture and the gap between Romania's current forest coverage (29%) and its optimal forest coverage (40%).
- Renovation Wave. We assessed the Plan's Renovation Wave element as "positive", given its combined regulatory and financing approach to building renovation

investment and its specific mention of historical buildings, a significant component of Romania's built environment.

- Renewable energy and energy efficiency. We assessed plans to increase renewable energy capacity and improve industrial energy efficiency as "very positive". However, it should be noted that Romania's target for renewable energy generation (30.7%) is still below EU recommendations (34%).
- Road transportation. We assessed Romania's proposed package for road and motorway development as "negative", given its connotations for stabilizing the fossil-based car economy. The measure does list smart traffic management systems and electric vehicle charging points as components, however these are not detailed and no targets are set.
- Natural gas infrastructure. As per Green Recovery Tracker guidance, we assessed Romania's proposal for improving the natural gas network as "negative". It should be noted that the measure's components are frequently conditioned by the use of hydrogen/other green gases in the natural gas mix, however these are not detailed and no targets are set, and it is therefore likely that the majority of this funding will ultimately support fossil gas infrastructure.

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Digitalization. 22 out of the 30 measures outlined in the Plan contain elements of digitalization, including the Digital Transformation pillar, with a budget of €4.02 bn and with the main beneficiaries being education, healthcare and public administration. The potential additional contribution of energy consumption of data centres and associated data infrastructure cannot be assessed at this time, but could be significant.
- Support for cities, towns and villages for community development. A significant proportion of the Plan's budget (€4 bn) is earmarked for the Community Resilience Fund, and many of the associated measures are delegated for implementation by local authorities. Depending on the design, implementation and monitoring of these measures, they could have a positive or a negative climate effect.
- Investment in education, social care and healthcare infrastructure. Many measures propose expansion or construction of infrastructure (schools, hospitals, care homes), which in many cases are not specified to align with green transition principles or net zero building standards.

IMPORTANT CLIMATE POLICY DECISIONS TAKEN DURING THE CRISIS AND RECOVERY PERIOD

In April 2020, Romania published its National Integrated Plan for Climate and Energy[9], proposing to increase its share of renewable energy resources to 30.7% and add 6.9 GW of renewable energy[10], by 2030. The Plan is now due for government approval and presentation to the European Commission[11]. In August 2020, the Romanian Parliament tightened its forestry law in an effort to combat illegal deforestation. Finally, in November 2020, Romania adopted its National Long-Term Strategy for Renovation, targeting residential and non-residential buildings[12].

ANNEX: MOST IMPORTANT MEASURES OF THE RECOVERY PACKAGE BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Renewable energy and energy efficiency: regulatory reform, investment in renewable energy capacities, and increase of energy efficiency in the industrial sector, SMEs and large companies (positive). • Gas network development: develop Romania's natural gas infrastructure and facilitate the use of hydrogen and other green gases (negative).
Mobility	• Road transportation: improve road and motorway infrastructure, safety and high congestion rates (negative). • Rail transportation and urban mobility: regulatory reform and investment to improve rail infrastructure, including inter-modality (very positive). • Active travel: regulatory reform and investment to improve cycle network (very positive)
Industry	• Generally part of cross-cutting measures • Renewable energy and energy efficiency: increase in energy efficiency for industry sector (positive) • Waste management: valuing of industrial waste (positive)

Buildings	• Renovation wave: regulatory reform, investment and upskilling of the supply chain to address the need for resilience and sustainability of the built environment, encompassing energy efficiency, earthquake and fire-proofing, and a transition to smart buildings (positive)
Agriculture	• Reforestation and biodiversity, addressing afforestation and reforestation of suitable areas, control of illegal logging, and biodiversity protection (positive). • Waste: control and improve farm waste collection (positive).
Cross-cutting	• Government cloud and inter-connected digital system: improvement of digital public services, the gaps in which have been evidenced by Covid-19 (likely climate effect but direction not assessable) • Healthcare measures: infrastructure expansion and development and digitalization of healthcare services (likely climate effect but direction not assessable) • Education measures: infrastructure expansion and development (likely climate effect but direction not assessable) It should also be noted that there are uncertainties in evaluation of the measures positive or negative climate impact, given the lack of detail presented in the Plan.

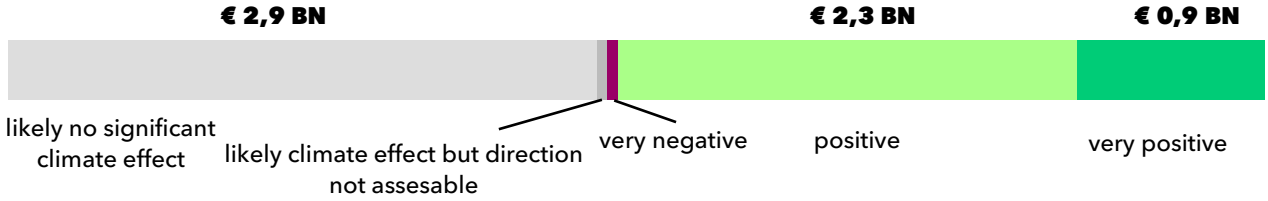
This report was written by Luciana Miu (EPG) and Magdolna Prantner (Wuppertal Institute). We are grateful to Mihnea Catuti and Constantin Postoiu (both EPG) and Felix Heilmann (E3G) for providing valuable inputs.

REFERENCES

[1] https://www.romaniajournal.ro/politics/resilience-plan-tabled-to-parliament-romania-gets-less-by-eur-1-3-bln-than-agreed/
[2] Combating the social costs of air pollution in Romania should be a priority - EPHA
[3] Romania's car ownership rate doubled in ten years, but still 40% below EU average | Romania Insider (romania-insider.com)
[4] Europe 1° Warmer: Bucharest (onedegreewarmer.eu)
[5] Brussels threatens Romania over illegal logging in primary forests | Euronews
[6] Eurostat; European Commission (2021). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[7] Euractiv (2021). Romanian authorities: No recovery relief funds for irrigation
[8] https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf
[9] ro_final_necp_main_ro.pdf (europa.eu)
[10] Compared to 2015 levels of renewable energy capacity.
[11] Strategia energetică a României a fost finalizată. În aprilie va fi aprobată de Guvern (mediafax.ro)
[12] Strategia-Nationala-Renovare.pdf (aaecr.ro)

GREEN RECOVERY TRACKER REPORT: SLOVAKIA

The first complete draft of Slovakia's Recovery and Resilience Plan (RRP) was published on 8 March 2021. Civil society groups were able to participate in a limited way in stakeholder groups during the very early development phase of the plan, but it is unclear how the results of these consultations were implemented. Despite this, civil society experts provided recommendations via media and advocacy. Overall, we find that the measures included in the draft plan, with investments equaling 6.5% of Slovakia's GDP (2019), are likely to make a positive contribution to the green transition. Our analysis identifies the following spending shares:



The Slovak RRP includes a "Green Economy" category with five components, which include many promising measures, such as investments in energy efficiency, renewable energies, and industry decarbonization. However, there are still areas of concerns, such as support for fossil gas boilers included in the energy efficiency pillar. Furthermore, while the plan's exclusion of support for fossil power generation is in line with EU green transition requirements, the €220m allocated to renewable energy generation are insufficient to fully exploit the potential of renewables for a green recovery, especially after years of legal restrictions on the expansion of renewables. The actual effect of the plan thus depends on whether its implementation will be accompanied by other measures, and whether there will be additional reforms to align national planning with the target of climate neutrality by 2050. Lastly, given Slovakia's relatively poor track record in using EU funds, ensuring the outlined measures are implemented successfully may be a challenge in itself.

In focus: Green Spending Share

We find that Slovakia's draft recovery plan (RRP) achieves a green spending share of 30%, below the EU's 37% climate spending benchmark.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

EU requirements leading to improvements in the development of the plan

EU-wide guidance encouraged the national ministries involved in the drafting of the national recovery plan to support more climate-related measures. Furthermore, it is positive that the Environment Ministry is set to oversee the implementation of measures on industry decarbonization and the renovation of family houses.

Bad Practice

Support for fossil gas boilers

Alongside many positive measures, a program to improve the energy efficiency of 40,000 family houses in Slovakia includes €50m for investments into fossil gas boilers, even though cleaner solutions, which could contribute to tackling the dual challenges of heat decarbonization and tackling energy poverty, are available.

To Our Surprise

A recovery plan development process not aligned with legislative requirements

The draft plan released on 8 March 2021 was submitted for the required official public consultation at a relatively early stage in order to achieve agreement among ministries and coalition parties. This could prove to be problematic later on as the legislative process requires that consultations on official documents are only held in the final stage of their development.

GENERAL CONTEXT

Before the COVID-19 crisis hit, the political debate in Slovakia was dominated by the fight against corruption and the pursuit of economic growth alongside fiscal policy discipline and a balanced budget. Especially the Economic Ministry, which is also responsible for the energy sector, is also actively working to remove regulations. Within climate politics, the effects of climate policy measures such as a carbon border adjustment mechanism on jobs in the steel industry, and other industries, was a key issue. Furthermore, the environmental and economic impacts of biomass and other sources of renewable energy generation were a strongly debated topic. Lastly, the ongoing Just Transition process of the Upper Nitra hard coal region in Slovakia is widely regarded as a case of good practice for planning and realizing a Just Transition.[1]

KEY FOCUS AREAS OF THE SLOVAK RECOVERY DEBATE AND THE RECOVERY PACKAGE

The development of the National Recovery Plan in the context of the EU Recovery Facility is taking place against a backdrop of a governmental crisis, with parties in the governing coalition strongly competing about the allocation of the funds. In a highly unusual move, the governing parties even released separate papers on the Recovery Plan, and the Agriculture Minister threatened to resign if the allocation of funds to his sector would not be increased. It seems that the governing parties divided the responsibilities and the allocation of funds based on the results they achieved in the last election. Notably, a request by the most potent political party for an increased budget for their ministries resulted to an increase of €270m in investments allocated to green measures, including €120m to be spent on renewable energy.

In its official framing of the recovery measures, the government is stressing the importance of economic convergence towards the GDP of other European countries, of responding to ongoing demographic changes, and the challenges and opportunities of technological change, with Slovakia being described as being particularly vulnerable to potential job losses caused by increasing automation. In this realm, the government identifies "the speed of adaptation of education and the social system" as the decisive factor for success.

Lastly, the government's priorities also include measures supporting the green transition, arguing that investments in green technologies can reduce the costs facing companies through stricter climate change policies. In particular, the government identifies the growing role of the European Union in climate policy and new decarbonization targets as key drivers of changes to the economic structure.

Context indicators[2]	Slovakia	EU average
GDP (2019)	**93.9 bn €**	
GDP (per capita, 2019)	**17210 €**	**31130 €**
GDP (per capita, 2020, provisional)	**16680 €**	**29640 €**
Debt (% of GDP, 2019Q4)	**48.5 %**	**77.6 %**
Debt (% of GDP, 2020Q3, provisional)	**60.8 %**	**89.8 %**
Unemployment Rate (December 2019)	**5.6 %**	**6.5 %**
Unemployment Rate (December 2020)	**7.0 %**	**7.3 %**
Real GDP forecast for 2020	**- 5.9 %**	**- 6.8 %**
Real GDP forecast for 2021	**+ 4.0 %**	**+ 3.7 %**
EU recovery funding (grants only)	**6.3 bn €**	

FINANCING AND ADDITIONALITY OF SLOVAKIA'S RECOVERY PACKAGE

Slovakia plans to use only the grants portion of the EU Recovery Facility, not the loans. In the past, Slovakia has faced challenges in fully absorbing EU funds, such as the Cohesion Funds, with just 53% of the overall funds for 2014-2020 spent to date.[3] The opportunity to reallocate funds, and additional flexibility in the wake of the pandemic, has made this issue temporarily less severe. However, this past experience illustrates that the implementation of the planned recovery measures will in itself be a challenge. An increase in capacities for planning and implementing decarbonization measures at the national and regional level could be an important solution for these issues.

GOVERNANCE OF THE RECOVERY PACKAGE

Recovery measures are not effectively linked to broader climate policy frameworks or measures. Measures within the "Green Economy" components of the draft RRP refer to EU climate targets and initiatives, but do not include conditionalities or links to specific targets. At present, Slovakia's national policies are not yet in line with a full decarbonization by 2050, with, for example, the National Energy and Climate Plan being out of date.[4] The development of the recovery measures has not yet been used as an opportunity to move other national decarbonization processes forward.

A dedicated law on a mechanism to support the recovery and resilience plan was published for public consultation in March 2021.[5] The planned law includes some rules and control mechanisms, such as obligatory contracts with actors set to receive the funds, including compulsory fines when targets are not met. However, it is too early to say where these measures will be sufficient, and, problematically, no formal role for civil society actors in the monitoring of the plan's implementation has been agreed yet.

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The Slovak government introduced several state-guarantee schemes to ease liquidity pressures, covering both SMEs and large firms, with a total envelope of up to €4bn.[6] Furthermore, a wage subsidy aid scheme has been set up to preserve employment and support self-employed individuals.

From a climate perspective, the most notable decisions took place in the mobility sector, where airport operators received €30m in state aid, while the operators of public transport systems in major cities did not receive support through the state budget, with the Transport Ministry arguing that it cannot provide such support as it is not formally responsible for these operators.[7]

OVERVIEW: MOST IMPORTANT MEASURES OF THE RECOVERY PLAN BY SECTOR

Sector	**Most important measures with effect on green transition**
Energy	• Development of new renewable energy generation and repowering, investments into grid infrastructure (€220m, very positive)
Mobility	• Investments in sustainable transport (€700m, very positive) • Infrastructure for alternative fuels, including hydrogen (€50m, likely climate effect but direction not assessable[1])
Industry	• Investments in the decarbonization of industry (€350m, positive)
Buildings	• Renovation of buildings (€650m, positive) • Support for fossil gas boilers (€50m, very negative)
Agriculture, land use and forestry	• Climate change adaptation, including afforestation (€150m, positive)

This report was written by Felix Heilmann (E3G) and Juraj Melichar (CEE Bankwatch Network). We are grateful to Marcel Glasa (Friends of the Earth-CEPA), Lucia Szabova (Concerned Mothers), Dana Marekova (Green Restart), Jan Karaba (SAPI), Pavol Fabry (Greenpeace Slovakia), Jozef Ridzon (SOS Birdlife, Slovakia), Dan Kollar (Cycling Coalition), Liliana Rastocka (Slovak Climate Initiative) and Johanna Lehne (E3G) for providing valuable inputs.

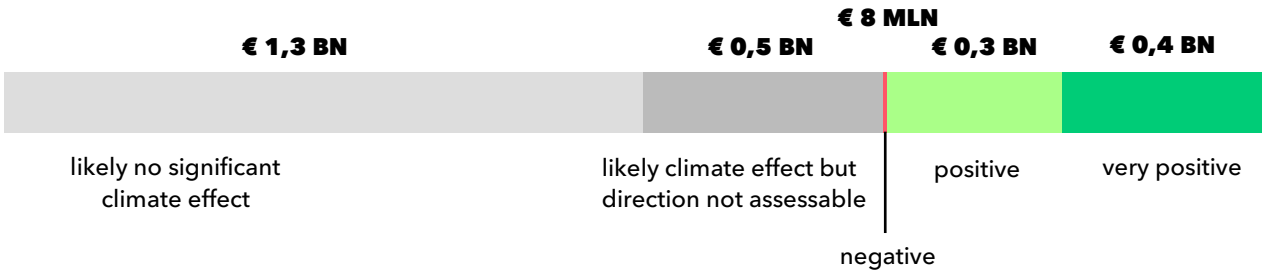
REFERENCES

[1] Just Transition (2021). Slovakia
[2] European Commission (2021). Winter 2021 Economic Forecast; Eurostat; own analysis
[3] European Commission (2021). Cohesion Fund
[4] Slovak Ministry of Economy (2019). Integrated Energy and Climate Plan; European Commission (2020). Assessment of the final national energy and climate plan of Slovakia
[5] Slov-Lex (2021). Zákon o mechanizme na podporu obnovy a odolnosti a o zmene a doplnení niektorých zákonov
[6] IMF (2021). Policy Responses to COVID-19
[7] Denník E (2021)

[1] This assessment was updated on June 16 based on new information (it was 'negative' previously).

GREEN RECOVERY TRACKER ANALYSIS: SLOVENIA

The Slovenian government presented its recovery plan (RRP) for the €2.5bn in grants and loans that it will receive through the EU Recovery and Resilience Facility (RRF) at the end of April 2021. Civil society actors and the public had little opportunity to participate in the development of the plan. Overall, we find that the measures included in the RRP, which come to 5% of Slovenia's GDP (2019), are currently unlikely to make a significant contribution to the green transition. Our analysis identifies the following spending shares:



Following a debate that strongly focused on short-term response measures, the development of the RRP was an opportunity for Slovenia to focus on longer-term recovery measures. However, our analysis shows that most measures in the RRP do not contribute to a greener transition in the long run. The explanation in the plan on avoiding significant harm is perceived as weak. The plan includes some positive measures, for instance on energy efficiency and railways, but these are undermined by problematic measures in other areas. The plan also has to be viewed against a backdrop of broader attempts by the government to weaken environmental regulation over the last year.

In focus: Green Spending Share

We find that Slovenia's recovery plan (RRP) achieves a green spending share of 21%, below the EU's 37% climate spending benchmark. Furthermore, we find that 19% may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the planning, review and implementation of the recovery measures.

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

A revolving fund for energy refurbishments in the public sector

The RRP proposes a revolving fund for energy refurbishments in parts of the public sector. The fund should help overcome current obstacles of refurbishment through ESCO financing where capital intensive refurbishments with smaller energy savings potential remain un-refurbished. The measure will improve the financial conditions for efficiency investments and help achieve the legal requirements energy refurbishments. Expanding the currently limited scope of beneficiaries to the entire public sector would bring additional benefits.

Bad Practice

Two thirds of the funding for sustainable fuel infrastructure for fossil gas

The previous draft RRP included €434m to be spent on "connectivity" measures, such as new road infrastructure and to the development of a new national airline, locking in carbon-intensive modes of transportation rather than investing in cleaner solutions. In a positive development, most of the measures did not make it to the final plan. However, some fossil fuel infrastructure is still included, and even worse, tagged as 100% climate investment. In particular, the measure "*Supporting the establishment of infrastructure for alternative fuels in transport*" not only supports EV charging stations but also natural gas fueling stations. In addition, the government announced that road construction projects will simply be moved to EU Cohesion Funding.

To Our Surprise

An Environment Ministry playing an unusual role

The Environment Ministry presented a list of 314 investment projects, which sparked a significant public controversy about the involvement of civil society organizations in the development of infrastructure projects and the weakening of environmental regulations – a move which would have been less surprising coming from the Economy Ministry. (More information on this can be found on page 3.)

KEEP AN EYE ON...

- ...shrinking space for civil society actors and environmental protection: in the early months of the pandemic, the government sought to change legislation governing the development of infrastructure projects, seeking to constrain the opportunities for civil society actors to participate in the relevant administrative review processes, alongside other legislative changes. This change was accompanied by revisions of pieces of environmental legislation, such as the Spatial Planning Act or the Water Act, all with the purpose of making it easier to develop large scale infrastructure projects even in instances where these projects would have environmentally harmful effects. This triggered a historical level of environmental activism opposing these changes both off- and online. However, the changes were ultimately passed, significantly weakening environmental protection, and obstructing the work of civil society groups.
- ...314 infrastructure projects: in 2020, the government released a list of 314 infrastructure projects which it hopes to launch as part of Slovenia's economic recovery.[1] This measure is viewed as being closely linked to the move to limit public participation in infrastructure development described above. The list of projects is not aligned with national energy climate targets. From the information released so far it is clear that some of the proposed projects could benefit the environment (e.g. wastewater treatment, rail investments, energy refurbishments), while others are likely to have a negative impact (e.g. road and waste incineration investments). Some of the projects appear to be included in the RRP, but the government has not formally linked the two processes.
- ...the additionality of the plan's measures: based on the available information, it seems that Slovenia is planning to use almost all its funds allocated under the RRF to finance previously planned projects. No new projects that would contribute to the green transition are included in the plan.
- ...the link between the recovery plan and broader climate policy: the RRP does include references to the National Energy and Climate Plan (NECP), but there are few overlaps between the investment projects identified as necessary in the NECP and the projects outlined in the RRP. While some of the investment priorities identified in the NECP overlap with measures that will receive funding through the RRP, for instance on energy efficiency and renewable energy, the RRP has not been used to unlock additional measures (see above). The RRP does not address some of the critical development needs identified in the NECP, such as the scaling up of solar PV, upgrades to the electricity grid and energy storage solutions.

[1] Slovenian Ministry of the Environment (2020). Pospešena izvedba pomembnih investicij za zagon gospodarstva po epidemiji

> …the implementation of the plan: the ultimate impact of many planned investments strongly depends on their implementation. For instance, the €310m investment into reducing flood risks is listed by the government as a measure that is fully contributing to climate action (100% climate tag as an adaptation investment). However, whether this measure will deliver positive effects will strongly depend on the specific projects that will be realized. If these are focussed on large construction projects in ecologically sensitive areas significant harm may be done. Moreover, investment support provided to industry and R&D financing will only have a positive climate effect if it is accompanied by adequately elaborated and sufficiently ambitious awarding criteria.

OVERVIEW: MOST IMPORTANT MEASURES OF THE RECOVERY PLAN BY SECTOR

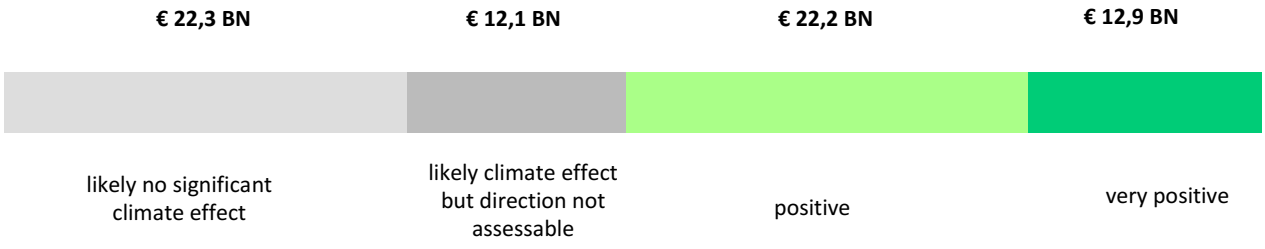
Sector	**Most important measures with effect on green transition**
Energy	• Investments in renewable energy sources (€50m, very positive)[2]
Mobility	• Investments in railway infrastructure (€279m, positive to very positive) • Investments in alternative fuels infrastructure (€8m, negative)
Buildings	• Construction of public housing (€60m, likely climate effect but direction not assessable) • Building renovations (€86m, positive)
Cross-sectoral/ other	• Investment support subsidies to increase productivity, competitiveness, resilience and decarbonise the economy and to preserve jobs (€95m, likely climate effect but direction not assessable) • Funding for research, development and innovation (€133m, likely climate effect but direction not assessable) • Strengthening competences, especially digital and those required by new professions and the green transition (€264m, likely climate effect but direction not assessable)

This report was written by Andrej Gnezda and Jonas Sonnenschein (Umanotera) as well as Felix Heilmann (E3G). We are grateful to Johanna Lehne (E3G) for providing valuable inputs.

[2] However, if – as planned – the money is mainly used for the hydropower plant Mokrice on the lower Sava river, and not for any solar power, then the investment may run counter to "Do No Significant Harm" requirements, as the Mokrice project endangers several important species, including Natura 2000 qualification species.

GREEN RECOVERY TRACKER REPORT: SPAIN

In April 2021, the Spanish government presented a first complete public draft of its Recovery and Resilience Plan (RRP), following an earlier release of high-level priorities in October 2020. Overall, we find that the components included in the draft plan, with investments totaling €69.5bn, equaling 6.2% of Spain's GDP (2020), will make a positive contribution to the green transition, as our analysis identifies the following spending shares:



Despite the inclusion of many positive investment and reform priorities in the plan, the information provided on which exact measures will receive specific funding amounts is often insufficient for a fully comprehensive assessment. All in all, the RRP sets positive benchmarks through the connection of investments and reforms such as the introduction of more ambitious energy transition targets enabled through recovery funding, as well as with the support of specific flagship projects as part of the green transition, such as battery manufacturing.

In focus: Green Spending Share

We find that Spain's draft recovery plan (RRP) achieves a green spending share of 31%, below the EU's 37% benchmark. Furthermore, we find that 17% (€12.1bn) may have a positive or negative impact on the green transition depending on the implementation of the relevant measures, illustrating the importance of further scrutiny during the further planning, review and implementation of the recovery measures. According to the government, the plan's climate spending share is 39% (see page 5 for more details).

Our calculation of the green spending share aims to mirror the approach used for the official assessment of national recovery plans, which distinguishes between measures contributing fully to climate mitigation (100% coefficient) and measures contributing partly (40% coefficient). Therefore, we fully count "very positive" measures towards the green spending share, while "positive" measures are weighted using a coefficient of 40%, which is applied to the associated costs. All individual assessments can be accessed via the country page on our website.

OUR HIGHLIGHTS

Good Practice

Linking economic recovery and regional development

The Spanish government is putting an explicit emphasis on supporting less developed regions in the country through its recovery measures in alignment with territorial policies, aiming to create more jobs and develop new economic activities in these regions. This emphasis is also closely linked to the national Just Transition Strategy.

Bad Practice

Missing information when it comes to the details

While the plan's general priorities are well-defined, the materials that have been published often only provide scarce information on what exact measures and projects will be supported. It has also been noted that the functioning of and accountability mechanisms for the plan's governance are not very well defined yet.

To Our Surprise

Accelerating the energy transition

The Spanish government moved its 2025 energy transition targets contained in its National Energy and Climate Plan forward to 2023 to boost the country's economic recovery. This decision will require a substantial increase in the country's capacity for renewable energy investments, the renewal of the housing stock as well as infrastructure for electric mobility.

GENERAL CONTEXT

Before the Covid-19 crisis hit, the political debate in Spain was dominated by the issues of unemployment and economic growth, quality of jobs, as well as mistrust in the political system and politicians.

Nonetheless, the government had also made the green transition a cornerstone of its political agenda, introducing a dedicated Ministry for the Ecological Transition and the Demographic Challenge in 2018 which is also responsible for energy policy making. In 2020, Environment Minister Ribera was promoted to the rank of Deputy Prime Minister, illustrating the political importance given to green issues by the government.

Within climate politics, the coal phase-out and the socio-economic transition of coal regions were a prominent issue, with unions and local authorities seeking to secure a compromise for a managed transition away from coal. While previous governments had tried to block the retirement of coal power plants, the new government was able to negotiate an agreement for the closure of unprofitable coal mines in late 2018. Furthermore, mobility issues have been at the center of public concerns. Air quality is also a prominent issue, with the decision of a newly elected local government in the capital Madrid to reverse restrictions on car traffic in the city causing a major public debate in the country. Lastly, the government's ambitious agenda for the expansion of renewable energies, including through self-consumption, has been a dominant topic. Especially the low costs of solar energy have led to a positive reaction from investors, leading to a considerable pipeline of new solar investments and to further activities with regards to grid connection access.

The preparation of the recovery plan allowed the government to tackle many of these challenges directly. It moved interim energy transition targets from 2025 to 2023 and puts a strong emphasis on territorial cohesion, with some green investments being prioritized for municipalities with fewer than 5,000 inhabitants. Ahead of the release of the national recovery plan, the government had already published a separate €3.8bn recovery plan targeted specifically at the automotive industry, which is not included in our quantitative analysis due our focus on the RRP.

Context indicators[1]	Spain	EU average
GDP (2020)	**1121.7 bn €**	
GDP (per capita, 2020)	**23690 €**	**29660 €**
Debt (% of GDP, 2019Q4)	**95.5 %**	**77.6 %**
Debt (% of GDP, 2020Q3)	**114.1 %**	**89.8 %**
Unemployment Rate (December 2019)	**13.7 %**	**6.5 %**
Unemployment Rate (August 2020)	**16.7 %**	**7.7 %**
Unemployment Rate (December 2020)	**16.2 %**	**7.5 %**
Real GDP forecast for 2020	**- 11 %**	**- 6.8 %**
Real GDP forecast for 2021	**+ 5.6 %**	**+ 3.7 %**
EU recovery funding (grants only)	**69.5 bn €**	

KEY FOCUS AREAS OF THE SPANISH RECOVERY DEBATE AND THE RECOVERY PACKAGE

Spain's national recovery plan is built around four cross-cutting objectives: the green transition, the digital transition, social and territorial cohesion and equality. When presenting the priorities of the recovery plan, Prime Minister Sánchez also stressed the need for an alternative growth model and emphasized that the recovery plan builds on the Sustainable Development Goals. The government also plans to use the recovery program to fill an existing gap in public investments, bringing them closer to the level of other EU countries.

While some civil society organisations criticized a lack of transparency and participation of civil society actors in the drafting process of the plan, the plan itself was well received overall. The earlier and separate €3.8bn recovery package for the automotive sector was met with more criticism from NGOs, as green groups criticized that the emissions threshold accepted as part of this scheme (120g CO2/km) exceeds current EU performance standards (95g CO2/km).[2]

During the early preparation phase of the plan, industry actors were split: a green growth group comprising over 50% of the IBEX35 listed companies was advocating for a green recovery[3] and supporting the government's recovery plan[4], while a separate industry alliance did not advocate for a green recovery, emphasizing compensations for CO2 charges and tax reductions instead.[5]

FINANCING AND ADDITIONALITY OF SPAIN'S RECOVERY PACKAGE

Spain's €69.5bn Recovery and Resilience Plan is almost fully financed through the EU Recovery Facility, making use of the full amount of grants that is available to Spain, but not the loans.[1] In addition, Spain is drawing on other funds, such as REACT-EU, to finance short-term crisis response measures. The 2021 state budget already earmarks €27bn in spending for this year, and the government has confirmed that it is planning to make those investments even if there should be delays with the disbursement of funds through the EU Recovery Facility.[6]

GOVERNANCE OF THE RECOVERY PACKAGE

The recovery package is linked to the targets defined in Spain's National Energy and Climate Plan. The Spanish recovery package also includes an acceleration of energy transition targets included in the National Energy and Climate Plan from 2025 to 2023. Furthermore, a longer-term predictability on the implementation of the recovery plan is provided by existing frameworks, including instruments like the long-term strategy, the hydrogen roadmap, or the new renewable energy investment legal framework.

According to the government, the plan achieves a 39% share of climate spending, while the analysis based on our methodology[2] identifies 31% green spending. The key reason for this divergence is that, based on our methodology, we only provide the 'positive' 40% climate coefficient to some measures which the government seemingly fully calculates into the climate spending share. Examples for this include investments in mobility or agriculture, where it is not clear that only best-in-class solutions will be supported, or where the information that would be necessary for a fully 'very positive' assessment based on our methodology is missing given the lack of detailled information on some measures. We also note that it is difficult to fully reproduce the government's official calculation of the climate spending share, with some assessments being in need of further explanation, such as the allocation of the best climate category to investments in the sport sector.

Allocating and spending the significant amounts of funding that are available within a short timeframe is perceived as a major challenge, and the Spanish government has advocated for a loosening of EU state aid restrictions to enable a faster public procurement process.[7] Small and medium enterprises as well as regional governments have criticized a lack of information regarding the planned implementation of the Recovery Plan, as they do not have access to information that would be necessary for being prepared for the disbursement and use of the funds. Furthermore, smaller companies have criticized that strategic investment projects appear to have been defined in a mostly top-down way, with smaller companies having relatively little access to the process.

[1] The plan's component 22, on care economy and social inclusion, also draws on €1bn of funding from outside the RRF. That €1bn is not included in our quantitative assessment due to our focus on the RRF.
[2] Green Recovery Tracker (2021). Methodology

NOTEWORTHY SHORT-TERM LIQUIDITY AND STATE AID DECISIONS ("COMPANY BAIL-OUTS")

The Spanish government is providing government guarantees with a total envelope of up to €100bn for firms and self-employed professionals, which do not have any climate conditionalities attached to them. The government has also provided a €1bn loan to IAG, the holding including Iberia, Spain's flagship airline, and Vueling, a low-cost airline, without any environmental conditions being attached to this loan. Furthermore, it has set up a €10bn fund to support strategic companies, which also does not include any climate conditionalities.

DEEP DIVE: THE MOST IMPORTANT RECOVERY MEASURES AND HOW WE ASSESS THEM

The most important components with an effect on the green transition are:

- An action plan on mobility in urban environments (C1, €6.5bn), which we assess as positive due to its support for zero-emission vehicles. As some of the funding available through this measure will likely also support "low-emission" vehicles, i.e. not best-in-class solutions with regards to the green transition, we do not assess this component as very positive. Furthermore, we note that the plan's funding for the mobility sector is strongly focused on the automotive sector, with little to no support for other mobility solutions.
- A plan for housing renovation and urban regeneration (C2, €6.8bn), which we assess as very positive. This assessment is conditional on the presentation of specific standards and targets to be achieved through the renovation measures.
- Further mobility investments (C6, €6.7bn), which we assess as positive due to its support for TEN-T rail corridors and sustainable transport, but not as very positive due to ambiguities on what specifically will be supported through some measures included in the component.
- Investments into renewable energy deployment and integration (C7, €3.2bn) which we assess as very positive.
- A renewable hydrogen roadmap (C9, €1.6bn) with the objective of developing and deploying renewable hydrogen. We assess this measure as very positive due to its focus on renewable hydrogen. However, this assessment is conditional on only renewable hydrogen receiving support, and we note that there are some concerns that also non-renewable forms of hydrogen may receive support through this measure, which would necessitate a less positive assessment.
- A Just Transition Strategy (C10, €0.3bn) which will support the implementation of just transition agreements in energy transition zones and investments in just transition measures. We assess this measure as positive as it makes an indirect, important contribution to the green transition.
- Investments into the industry sector and a 2030 Industry Strategy (C12, €3.8bn) which we categorize as having a likely climate effect that is not assessable, as the decarbonization of the industrial sector is a crucial next challenge in the green transition, but the component itself does not include specific green targets.

- Investments into science, technology and innovation (C17, €3.4bn) which we assess as positive as the component includes some research projects on environmental topics.

The package furthermore contains a significant number of measures that do not directly relate to the green transition but are still important and potentially transformative, such as:

- Investments into the modernization of public administrations (C11, €4.3bn).
- Investments into digital connectivity (C15, €4bn)
- A National Digital Skills Plan (C19, €3.6bn)

This report was written by Felix Heilmann, Artur Patuleia and Alexander Reitzenstein (E3G).
We are grateful to Lara Lázaro (Elcano Royal Institute), Peter Sweatman (Climate Strategy & Partners), Elisa Sainz de Murieta and Ana Morales (BC3), Lisa Fischer (E3G), Helena Mölter and Magdolna Prantner (Wuppertal Institute) as well as to Nuria Blázquez and Luis Flores for providing valuable inputs. The contents of this analysis are the sole responsibility of the authors.

REFERENCES

[1] Eurostat; European Commission (2021). European Economic Forecast; European Commission (2020). Recovery and Resilience Facility – Grants allocation per Member State; own analysis
[2] elDiario.es (2020). El sector y los grupos ecologistas se enfrentan por las ayudas a los coches de combustión
[3] Grupo Español de Crecimiento Verde (2020). El GECV urge una recuperación económica verde
[4] RETEMA (2020). España cuenta con un gran potencial para salir muy fortalecida de esta crisis
[5] Alianza por la competitividad de la Industria Español (2020). 10 propuestas para recuperar la actividad económica en España
[6] Reuters (2021). Spain pushes ahead with recovery plan while waiting for EU funds
[7] Euractiv (2021). Spain makes plea for 'flexibility' in EU recovery plan

GREEN RECOVERY TRACKER

ANNEX B - BACKGROUND NOTE ON POTENTIALLY CONTROVERSIAL CASES

BACKGROUND NOTE: POTENTIALLY CONTROVERSIAL CASES

Generalized consumption incentives, such as VAT cuts

Generalized consumption incentives such as VAT cuts are not contributing to the transition to a climate neutral economy but are rather stabilizing the current fossil fuel-based economy. Furthermore, economic modelling shows that green recovery measures are more effective at mobilizing investments and stimulating the economic recovery than generalized tax cuts.[7] We therefore assess such generalized consumption incentives as negative.

Biodiversity and climate adaptation measures

Measures to enhance biodiversity as well as climate adaptation measures must play an important role in the transition to a more resilient and sustainable economy. However, they are currently outside of the scope of our assessment framework, which only focuses on the effects of measures on climate change mitigation, i.e. emissions cuts. Therefore, we currently assess such measures - unless they have a direct effect of emissions, such as planting trees - as having likely no significant climate mitigation effect. It is important to note that climate change adaptation measures are awarded a 100% climate contribution coefficient in the RRF climate tracking methodology – here, our methodological approach deviates from the RRF due to our focus on emissions. We highlight possible differences in assessments in the respective country reports of countries with a high share of adaptation measures.

Investments into natural gas infrastructure and power plants

Following the Commission's proposed criteria for electricity and heat and power plants in the sustainable finance taxonomy regulation, we note that currently no gas infrastructure without CCS is capable of meeting the required emissions standards.[8] This is the case as the most efficient natural gas plants have an average emissions intensity of ca. 340g CO2/kWh, while the requirement for an assessment as sustainable would be a maximum of 100g CO2/kWh. Furthermore, we note that existing natural gas infrastructure in the EU can satisfy the EU demand for natural gas in any scenario, and that therefore public funds such as the recovery funding should be directed to best in class solutions, such as efficiency measures and renewables, while investments into natural gas infrastructure would significantly increase the risk of a lock-in into fossil fuels and stranded assets.[9] For these reasons, we assess exclusive investments into natural gas infrastructure and power plants as very negative.

Investments into nuclear power

We note that there are significant concerns regarding the compliance of investments in nuclear power with the "do no significant harm" criteria in the context of the EU taxonomy. Therefore, we assess investments into nuclear power (except for safety upgrades) as negative.

[7] Cambridge Econometrics & We Mean Business (2020). Assessment of Green Recovery Plans after Covid-19
[8] Euractiv (2020). Gas denied 'transition' fuel status in draft EU green finance rules
[9] CAN Europe et al. (2020)

Automotive, shipping and aviation measures

We categorize automotive, shipping and aviation measures affecting the “industry” (not “mobility”) sector if they are aimed to support production (not demand). All measures that support the existing technologies based on fossil fuels have a negative climate impact (this includes measures that aim to improve the existing technologies e.g. by emitting 30% less CO2). We argue that such measures may have transitory elements, but do represent an inertia for alternative, fossil-free technologies in markets which are dominated by incumbents. If the measures are in the field of research and development, the assessment may differ. In case of measures that support fossil-free technologies (e.g. e-mobility), we see a positive or very positive climate impact.

GREEN RECOVERY TRACKER

ANNEX C - KEY FINDINGS (PUBLISHED 3 JUNE 2021)

Wuppertal Institut

E3G

GREEN RECOVERY TRACKER

IS THE EU RECOVERY AND RESILIENCE FACILITY ENABLING A GREEN RECOVERY?

Summary of findings from the Green Recovery Tracker

Analysis of recovery plans and measures in 15 EU states shows that national recovery plans are currently falling short of ambitions to "build back better". The EU's green recovery is anything but secured. Decisions taken in the coming weeks, especially during the official review of national plans, can help realign the EU towards a green recovery, and are an important credibility test for the European Green Deal and the European Commission.

The EU's €673bn Recovery and Resilience Facility (RRF) provides a unique opportunity to bring forward much-needed public investments for the implementation of the European Green Deal. EU leaders agreed that recovery spending would need to effectively support the green transition, with 37% of member state plans earmarked for green investments.

The Green Recovery Tracker, a joint project between the Wuppertal Institute, E3G, and national experts, has been analysing Recovery and Resilience Plans (RRPs) to see whether they live up to this ambition. Our independent assessment of national recovery plans uses a methodology that seeks to mirror the Climate Tracking Methodology set out in the RRF Regulation, combined with information on individual measures provided by national experts. Our data and results are available on our website www.GreenRecoveryTracker.org.

This background briefing summarizes three key insights from our analytical work on recovery measures in 15 EU countries to date and outlines recommendations based on those:

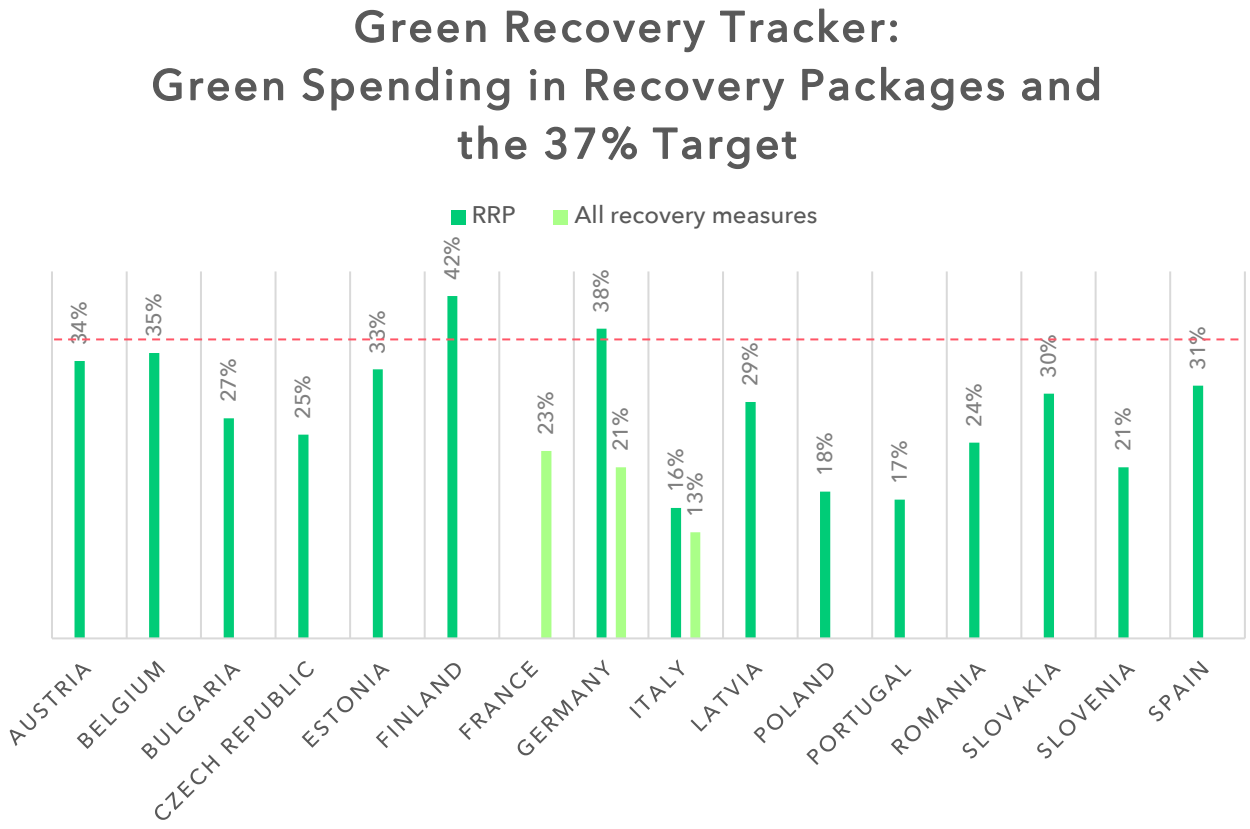
1. Many national recovery plans are in danger of missing the 37% climate spending target. The Commission's review of the plans is a crucial moment for realigning the EU with a green recovery, and the Commission should not hesitate to scrutinize member state submissions closely.

2. There are significant risks that measures that look green at first glance may end up supporting fossil fuels. Many plans still include measures not aligned with the green transition. The milestones and targets that are negotiated between the Commission and national governments are an important instrument for providing clarity on where exactly recovery funding will be used and ensure that it advances the green transition.

3. Most recovery plans are not aligned with the EU's new 2030 climate target and are not used to accelerate the climate transition in line with the new target. This shows that scrutiny not just of investments but also of reforms included in RRPs, including on the links between RRP development and national energy and climate policy such as NECPs, is crucial.

(1) Many national recovery plans are in danger of missing the 37% climate spending target.

Governments have been keen to highlight the green contribution made by their national RRPs, and all governments that have published plans so far claim to have met the 37% climate spending target. However, we find that there are still significant risks that plans may not deliver on this target and its ambition.[1]



Smaller deviations between our numbers and official numbers can be explained by methodological differences, including the fact that our methodology only considers climate mitigation and not adaptation effects. However, the larger deviations found in most member state plans cannot be explained merely by methodological differences but instead reflect fundamental uncertainties with regards to green spending in RRPs.

These uncertainties include designations of climate spending not clearly in line with the official Climate Tracking Methodology outlined in Annex VI of the RRF Regulation (e.g. support for plug-in hybrid vehicles in the German RRP, generalized investment support without clear climate conditionalities in various RRPs, energy efficiency investments without assurances on

[1] Green Recovery Tracker (2021). Country Reports & Green Recovery Tracker (2021). Methodology

the achievement of the required improved energy standards), measures being designated as green even though their climate contribution is at the very least doubtful (e.g. investments into new-built housing in Portugal), and measures that are assessed positively by governments despite them including harmful measures (e.g. energy efficiency investments including support for fossil gas boilers in Italy, Poland and Czechia – also see point (2) below).

Notably, the official climate spending claims from national governments are often just above the 37% benchmark. Any downwards revision of the official assessment of individual measures would hence likely require the inclusion of additional climate measures to make up for the reduction in climate spending.

(2) There are significant risks that measures that look green at first glance may end up supporting fossil fuels. Many plans include measures not aligned with the green transition.

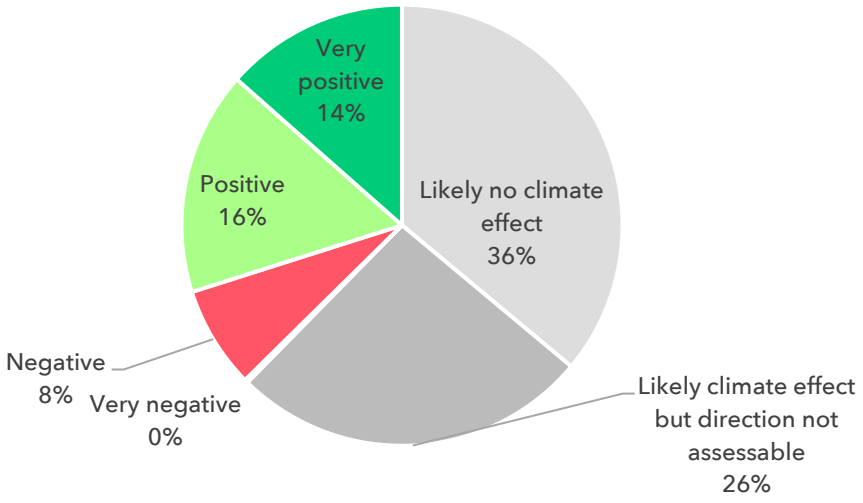


Figure 2: distribution of total recovery spending by assessment category (total = €659bn)

Around one quarter of all assessed recovery funding (€173bn) is allocated to measures that will likely have a climate effect that cannot yet be assessed. This includes measures that combine positive (e.g. energy efficiency) investments with harmful (e.g. fossil gas boilers) investments; or measures that appear positive but when considered in the local context could end up being harmful, such as investments into "hydrogen" infrastructure in regions where it is unlikely that the infrastructure will be utilized for anything except fossil gas in the foreseeable future.[2]

[2] Also see CAN Europe (2021). EU Cash Awards

The milestones and targets that are negotiated between the Commission and governments are a critical instrument for providing clarity on where exactly recovery funding will be used and to ensure that it advances the green transition. Following the significant lack of transparency and public participation in the development process for RRPs in most EU states[3], it is also crucial that the final review and approval process for the plans, as well as (but not only) their implementation, are more responsive to, and open for, the inputs of civil society stakeholders.

(3) Most recovery plans are not aligned with the EU's new 2030 climate target and are not used to accelerate the climate transition in line with the new target.

Many of our national expert partners have criticized that the assessed RRPs are lacking a strategic vision, especially with regards to using recovery funds to advance the green transition. For instance, most RRPs only have weak links to existing climate policy frameworks and are based on energy and climate plans (NECPs) which are now no longer aligned with the EU's new 2030 climate target. EU recovery funding would have been an opportunity to increase ambition in line with this target that most governments have not made use of. But instead of using the development of recovery plans as an opportunity to accelerate the implementation of decarbonization measures alongside a strategic pathway, most governments have followed a closed bottom-up approach of assembling lists of possible investment projects.

RRPs from countries that linked the recovery planning process to strategic decarbonization frameworks or even used it to enable more ambitious targets also score more highly when it comes to overall green spending (for instance, Finland and Spain). At the same time, there are concerns in some member states, such as Slovenia, that the reform component of national RRPs even include environmental deregulation measures.

This shows that scrutiny not just of individual investments but also of the reforms included in RRPs, including on the links between RRP development and national energy and climate policy such as NECPs, is crucial. The EU's new climate target for 2030, and the ensuing need to revise national energy and climate plans upwards, provides an important and pressing argument for also increasing the amount and quality of green investment measures included in RRPs, in line with overall decarbonization strategies.

This briefing was written by Felix Heilmann and Johanna Lehne (E3G) as well as Helena Mölter, Timon Wehnert and Magdolna Prantner (Wuppertal Institute). We are grateful to Jacqueline Klingen (Wuppertal Institute) as well as Lisa Fischer and Lucie Mattera (E3G) for their valuable inputs.

[3] CEE Bankwatch (2021). Secrecy surrounding €672 billion in EU recovery funding jeopardises building back better

ANNEX D - GREEN RECOVERY TRACKER DEEP DIVES

1. RECOVERY INVESTMENTS AND THE EUROPEAN **ENERGY** TRANSITION
2. RECOVERY INVESTMENTS AND EU **INDUSTRY** DECARBONIZATION
3. RECOVERY INVESTMENTS AND THE GREEN **MOBILITY** TRANSITION
4. RENOVATE2RECOVER: HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR **BUILDINGS** RENOVATION?

Wuppertal Institut
E3G

GREEN RECOVERY TRACKER

RECOVERY INVESTMENTS AND THE EUROPEAN ENERGY TRANSITION

A Green Recovery Tracker deep dive

The Green Recovery Tracker project analysed recovery plans and measures in 17 EU countries, covering 88% of the total grants available through the EU Recovery and Resilience Facility. This briefing provides an in-depth analysis on the relation between the assessed recovery spending and the energy transition. Our analysis shows that 8% of all recovery spending is directly relevant to the energy sector's transition while overall, €204bn out of the €685bn analysed will accelerate the green transition.* Many of these measures, such as investments in electric mobility, heat pumps and hydrogen production, will further increase demand for renewable electricity. However, only a relatively small part of recovery measures will specifically support clean energy production, which currently is mostly held back by national regulatory hurdles.

Overall, the Recovery and Resilience Facility's impact on the supply of clean electricity will likely be smaller than its impact on demand for it. Legislative steps unlocking the potential of renewable energy generation are therefore necessary, also considering the higher renewable energy targets that will be negotiated as part of the European "Fit for 55" package. Such steps are also a prerequisite for most other green recovery measures to be able to make an ultimately positive impact.

CONTEXT: THE ECONOMIC RECOVERY FROM THE COVID-19 CRISIS AND THE ENERGY TRANSITION ARE CLOSELY CONNECTED

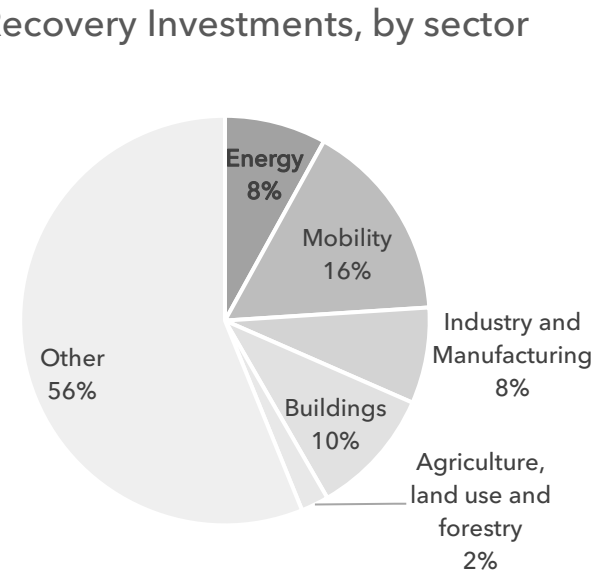
Two urgent and all-encompassing political challenges unfolded simultaneously in 2020 and 2021: the need to respond to and recover from the COVID-19 crisis, and the need to realize the European Green Deal. Politicians and policy experts alike quickly agreed that an effective allocation of economic recovery spending would require the pursuit of a "green recovery": addressing the economic crisis as well as the climate and biodiversity crises.[1]

Moreover, even before the crisis, the EU was facing a significant financing gap with regards to the European energy transition targets in most member states. The European Commission estimates that the recently agreed higher EU climate target for 2030 requires an approximate doubling of total investments in the energy transition until 2030.[2] Compared to existing plans, the expansion of renewable energy must increase by a third for the EU to be on track for achieving its overall targets.[3]

* Including RRF loans and other funding sources such as domestic budgets in cases in which they were used to (co-)finance recovery programmes.

ARE RECOVERY INVESTMENTS IN THE EU ENERGY SECTOR ALIGNED WITH THE GREEN TRANSITION?

Our assessment of recovery measures in 17 EU member states shows that 8% of the total recovery investments (€55bn out of €685bn) are invested into the energy sector, for example into electricity or gas infrastructure. By comparison, larger shares are invested in the mobility (16%) and buildings (10%) sectors, often in measures that will advance the green transition by increasing the opportunities for the direct use of (clean) electricity, such as electric mobility or heat pumps. Furthermore, hydrogen is a prominent recipient of EU recovery funds.

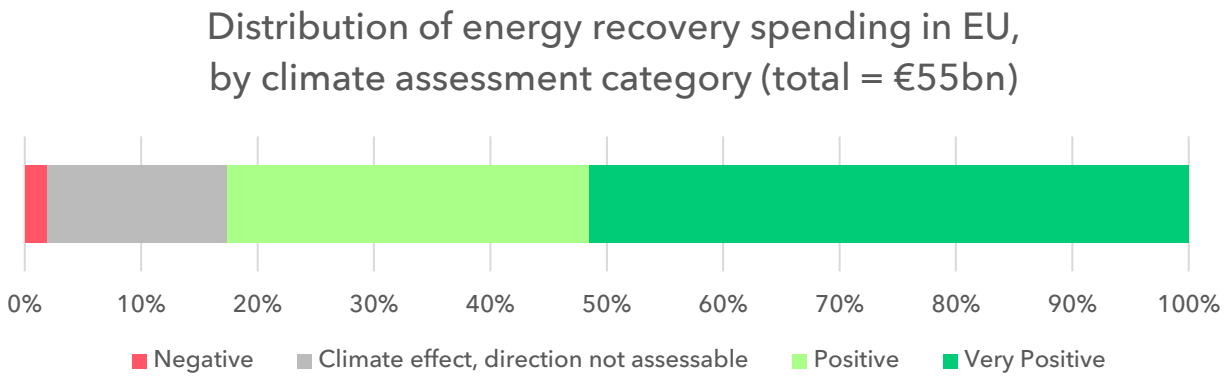


About our data

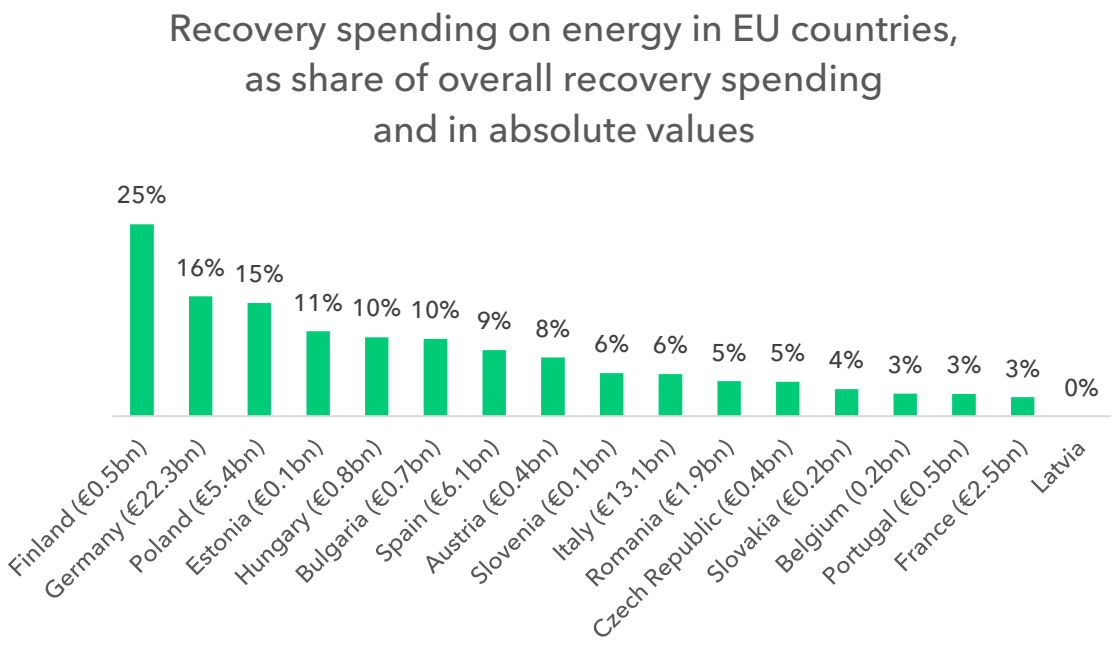
This briefing is based on data gathered through the Green Recovery Tracker, a joint project between Wuppertal Institute and E3G, in collaboration with national experts. The data used was last updated on 16 July 2021 and is available on the website www.greenrecoverytracker.org. A full list of all countries covered, and the status of the documents on which this analysis is based for those countries, can be found in Annex 2. Individual recovery measures have been assigned to the specific sectors based on the question what sector's emissions will be most affected by the respective measures.

83% of the energy investments assessed are expected to make a positive or very positive contribution to the green transition, for example through enabling improvements to electricity grids, the production of green hydrogen, and increasing renewable energy generation.

At the same time, the climate impact of €8.5bn (16%) in investments could not yet be determined and will depend on how the recovery plans are implemented (for comparison: this is more than the entire recovery funding allocated in the Czech Republic). These investments include investments in gas-based technologies where it is not yet clear whether they will be fully based on renewable hydrogen or whether they risk creating fossil gas lock-ins. Lastly, we identified €1.1bn in energy recovery spending which seems to be harmful to the green transition, which include planned investments into what will most certainly be fossil gas infrastructure in Bulgaria and Romania.



Furthermore, our data shows that different governments prioritized investments in the energy sector to different extents when developing their recovery plans. Finland achieved the highest share of energy-related spending by far. Germany is using the funding to lower its renewable energy surcharge, thereby making the use of electricity more competitive relative to fossil fuels such as oil and gas, and to enable large scale investments in hydrogen. Poland is offering significant opportunities to scale up the offshore wind power industry, though mostly through loans. Of course, it must be noted that countries with access to more recovery funding are able to allocate higher absolute amounts to any single sector without necessarily having the highest share, as can be seen in the absolute numbers which are also included in the chart below.



Importantly, the process for developing Recovery and Resilience Plans in the European Union also put an equal emphasis on reform measures in addition to investments, with the European Commission emphasising that "recovery and resilience plans need to reflect a substantive reform and investment effort. Both reforms and investments must be coherent and adequately address the challenges in the individual Member State".[4] It is in this regard that the recovery planning process has perhaps left the largest delivery gap, from a green transition perspective, as almost all recovery plans are based on National Energy and Climate Plans (NECPs) which often were already unambitious compared to the EU's old climate target, and which will have to be updated now that the EU has agreed a new and higher climate target.

Instead of using the availability of recovery funds and the associated planning process as an opportunity to enable additional ambition, including on the strategic level, most governments opted towards the status quo. A notable exception is the Spanish government, which used the process to bring energy transition targets forward from 2025 to 2023. Furthermore, recent reports about the potential inclusion of national planning processes for decarbonization and phasing out coal phase Bulgaria and Romania are promising, and evidence for the potential of recovery plans to include more substantive reform measures when there is more time and space for their development and elaboration, as has recently been the case in both these countries.

Overall, however, the European Commission has clearly criticized shortfalls in national planning for the energy transition in many of its assessments of recovery plans. Below are three examples from the Commission's assessments on "challenges related to the green and digital transition" in the working documents analysing national plans:

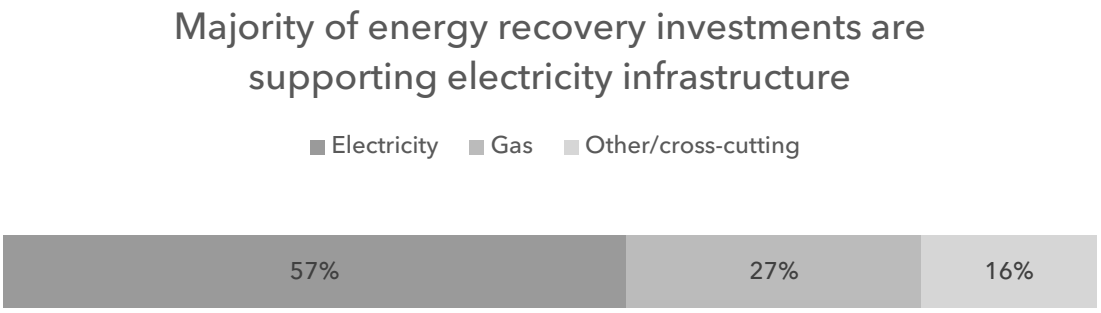
- Germany: *"Germany needs to step up policy action to achieve carbon neutrality in time and to reap the benefits of the digital transition. An overarching objective of the Recovery and Resilience Facility is to support the twin (green and digital) transition, an aspect where Germany has considerable room for improvement."*[5]
- Italy: *"To reach the 30% share of renewables in gross final energy consumption 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[d] penetration of renewables in the electricity and transport sectors represents an important challenge and should thus be supported by adequate policies."*[6] [note: this refers to Italy's old NECP, which will likely require an upwards revision to be aligned with the new EU climate target]
- Slovakia: *"Slovakia is not yet sufficiently prepared for the green transition, and investment is lacking in many areas. Investments in the green transition are particularly challenging due to a limited absorption capacity of funds, and most government plans are only in an initial phase."*[7]

These examples illustrate that the recovery planning process has, all in all, not been used to strategically reorient national planning and budgeting in line with the EU's climate targets. Given that this process is now unavoidable due to the EU Climate Law, this task must remain a top priority item on the agenda of national governments – and solutions must be found for all financing needs which are not yet covered, either through other sources of public finance, or private finance, depending on the context.

WHAT PARTS OF THE ENERGY SYSTEM WILL MOST BENEFIT FROM RECOVERY INVESTMENTS?

A breakdown of the €55bn in recovery investments into the energy sector shows that most of the funds will support the electricity system, especially through support for renewables (€25bn) and grids (€6bn) *(see chart below)*. Around one quarter of the investments will support the gas sector.[†] The share of gas investments is relatively high compared to the respective investment needs for electricity and gas in the energy transition. For instance, the International Energy Agency's net-zero scenario foresees annual global investment needs of $1,600bn in electricity generation and a further $800bn in electricity networks by 2030, compared to $165bn for hydrogen, which makes up most gas-related investments in European recovery spending.[8] Notably, electricity grid investments have been stalling in the EU recently, as net additions to the grid have decreased since 2015.[9]

[†] For this analysis, "electricity" investments include investments in electricity generation, transport and storage, while "gas" investments include investments in gas transport infrastructure as well as generation facilities for hydrogen.



Recovery investments in energy are distributed unevenly between countries. For instance, the renewables investments include €11bn allocated by the German government out of the domestic budget to a lowering of the renewable energy surcharge, and €3.7bn that the Polish government is preparing to offer through the EU Recovery Facility for offshore wind energy development, mostly in the form of loans. Other countries that are planning to offer public investments for renewables include Italy (€5.5bn) and Spain (€3.2bn). Investments in electricity grid infrastructure are planned in Bulgaria, Finland, Hungary, Poland, Slovenia, and Spain.

In a climate neutral economy, the efficient direct or indirect use of clean electricity will be the backbone of the energy system, replacing fossil fuels such as coal, oil and gas.[10] An expansion of renewable electricity generation and infrastructure is hence needed – but it is likely that the Recovery and Resilience Facility's impact on the supply of clean electricity will likely be smaller than its impact on demand for it, for example through positive investments that are supporting the deployment of electric heat pumps or electric mobility infrastructure. This can be seen in the relatively limited significance of investments in electricity infrastructure, at 4.6% of all investments, relative to investments into the end-use sectors buildings, mobility and industry, with 34% of the overall amount mobilized, including for significant electrification measures.

However, it is often not a lack of financing but regulatory hurdles that are constraining the expansion of renewables, which are by now usually the most cost-competitive form of energy generation.[11] These hurdles include, among others, overly complex permitting procedures and regulations undermining the development of wind power in populated areas.[12] It is hence most important for governments to unlock this potential by creating a regulatory environment that encourages renewables development rather than constraining it, and doing so could be a constructive next step following the agreement on national recovery plans. It would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans.

A closer look: gas investments through the RRF

The future role of gases in the energy transition is among the most controversial issues in energy policy at present. This was also reflected in the negotiations for the implementation of the EU Recovery and Resilience Facility, for which green groups and some EU member states demanded a complete exclusion of support for all fossil fuel, including gas, infrastructure. At the same time, other member states argued for the importance of gas as a so-called "transition fuel".[13] In the end, the European Commission's guidance stated that, while support for fossil fuels should be avoided, *"limited exceptions for measures related to power and/or heat generation using natural gas, as well as related transmission and distribution infrastructure, can be made to this general rule, on a case-by-case basis"*, especially in member states which are currently relaying on *"more carbon-intensive energy sources, such as coal, lignite or oil"*.[14]

During our work, we followed the development process for national recovery plans in several EU member states closely, often assessing different versions of national plans throughout the development process. While doing so, we repeatedly encountered instances of planned investments in fossil gas infrastructure being reduced or removed from plans, showing the efficacy of such EU-level guidance, binding criteria and their enforcement by the European institutions. However, the loophole cited above nonetheless resulted in the inclusion of several, direct or indirect, fossil gas projects in final plans. For example, member states such as Czechia, Italy and Poland included support for fossil gas boilers in their national plans, despite the availability of better solutions such as electric heat pumps and decarbonized district heating and cooling.[15]

The International Energy Agency's net zero scenario concludes that fossil fuel boilers should not be installed post-2025 for a cost-effective pathway to net-zero.[16] In this context, using recovery funding for gas infrastructure may send conflicting signals and increase the costs of the transition to the countries that choose to do so. Furthermore, there is a risk that fossil fuel investments that were withdrawn from the Recovery and Resilience Facility will now be supported through other domestic or European funding sources. This makes it important to ensure a coherent exclusion of fossil fuel financing across all funding sources.

Hydrogen has received a particularly high degree of interest from policymakers recently. It is, therefore, not surprising that it featured strongly across recovery plans. Altogether, in the plans we analysed, we identified total investments of ca. €12.7bn (23% of all energy investments) in hydrogen, spanning all parts of the value chain *(see table in annex 1, below)*. Most of the plans emphasize the development of renewable hydrogen with a focus on those demand areas in which hydrogen can most effectively contribute to the green transition, suggesting that RRF funds will indeed be used strategically for the development of hydrogen.

Two caveats are important to consider here. First, the European Commission and national governments have agreed on specific targets which the respective member states must achieve for funding to be disbursed – and these targets differ between countries. For instance, while

some countries will focus on "renewable" hydrogen only (such as Portugal and Spain), others may include non-renewable, "low-carbon" hydrogen. Furthermore, some national targets are remarkably vague. The targets to be achieved by Germany are, for example, defined only in terms of amounts of funding disbursed, without specific criteria on what type of hydrogen activities can be supported through these funds.[17]

As a second caveat, as noted above, the development of renewable hydrogen production, alongside with other investments in electrification in RRPs, will further increase the urgency of massively ramping up the deployment of renewable energy generation in Europe. Policymakers must make this a top priority issue, as it is an underlying condition for the success of their renewable hydrogen plans, among others.

Lastly, there are some individual projects which, if realized, could undermine the credibility of the Recovery and Resilience Facility's contribution to a green transition, such as plans by the Bulgarian government to support the construction of at least 1 GW of fossil gas power generation capacities through EU recovery funds. [18] Such an investment would be the only investment in significant new fossil fuel power generation among the national plans, and should be avoided both to prevent damage to the EU Recovery and Resilience Facility overall as well as to avoid locking individual countries into a slower and more burdensome green transition path, with other countries focussing on fully sustainable solutions and hence progressing more quickly. Importantly, it must be noted that a just coal phase out can and should be designed in a way that does not primarily rely on significant additions of fossil gas power generation.

CONCLUSIONS AND OUTLOOK

EU member states' national recovery planning was often not fully aligned with the strategic needs of the green transition, and the process was not used to increase the ambition and coherence of national energy transition strategies.[19] The funding provided through the EU Recovery and Resilience Facility will nonetheless help accelerate the transition to climate neutrality. Overall, the Green Recovery Tracker has identified €204bn in recovery spending that will accelerate the transition in the countries which we analyzed. 8% of the overall recovery spending is set to go to the energy sector, in comparison to 16% and 10% for the mobility and buildings sectors respectively, and a further 8% for the industry sector.

It is very likely that EU recovery funds will create a demand pull for renewable electricity through the rollout of electric end-use technologies such as heat pumps and electric vehicles. This has the potential to make a positive contribution to the green transition thanks to the ability of these devices to efficiently use clean electricity. However, the plans alone are not doing enough to fully secure these benefits, as investments into clean electricity infrastructure, both for generation and grids, are limited.

In summary, this could mean that the Recovery Facility's impact on the supply of clean electricity will be smaller than its impact on the demand for it. Regarding renewable electricity supply, which is already cost competitive in most areas of Europe, the bottleneck may less be financial support but regulatory constraints. Legislative steps to unlock the potential of renewable energy generation are therefore urgently necessary, also because they are a prerequisite for other green recovery measures to be able to make an ultimately positive impact. Such steps would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans. Electricity grids, however, need an urgent scale up of investments and the lack of focus on this in most recovery plans can be considered a missed opportunity. Furthermore, all these measures should be implemented alongside coherent and effective support schemes for a more efficient use of energy.

This analysis was written by Felix Heilmann. The author would like to thank Lisa Fischer, Genady Kondarev, Johanna Lehne, Helena Mölter and Adeline Rochet for valuable inputs and constructive feedback.

ANNEX 1: PLANNED HYDROGEN INVESTMENTS IN SELECTED RECOVERY PLANS

Country	Investment	Amount	Comment
Austria	Hydrogen IPCEI	€1.3bn	Focus on renewable hydrogen specified as overall target, but not for specific investments: targets defined in terms of number of projects approved.
France	Low-carbon hydrogen	€2.0bn	Target about support for "renewable and low-carbon hydrogen", not an unambiguous focus on hydrogen produced from renewable electricity.
Germany	Hydrogen R&D	€0.7bn	Germany's strategic focus is on green hydrogen from renewable electricity, but there is increasing talk about using hydrogen made from fossil gas. Targets are referencing funding disbursed and installation of 300MW electrolysis capacity.
	Hydrogen IPCEI	€1.5bn	
Portugal	Hydrogen and renewable gases	€1.9bn	Clear focus on "renewable hydrogen" in the targets.
Poland	Hydrogen technologies: production, storage and transportation of hydrogen	€0.8bn	No clear focus on renewable hydrogen in the national plan. Targets set by the European Commission not yet released.
Spain	Renewable hydrogen roadmap and sectoral integration	€1.6bn	Targeting the development of "renewable hydrogen clusters", enabling both an effective production and use of hydrogen.
Romania	Developing natural gas infrastructure for hydrogen and other green gases	€0.6bn	Strong conditions would be necessary to ensure that this investment does not ultimately support fossil fuel infrastructure. Assessment and targets from the European Commission not yet released.
Finland	Low-carbon hydrogen and carbon capture and utilization in hydrogen	€1.6bn	Support for "low-carbon" hydrogen. Notably the only project for carbon capture (CCS) in any of the RRPs analyzed.
Italy	Hydrogen production	€0.5bn	Italy's recovery investments into gas-related activities are significant, including an additional €1.9bn for biomethane, especially when considering the funding shortfall for renewable electricity generation. Separate R&D investments could support all types of hydrogen, not just renewable hydrogen.

ANNEX 2: COUNTRIES AND MEASURES INCLUDED IN THE QUANTITATIVE ANALYSIS

Country	Recovery plans and/or measures analyzed
Austria	Recovery and Resilience Plan (April 2021)
Belgium	Recovery and Resilience Plan (April 2021)
Bulgaria	Draft Recovery and Resilience Plan (February 2021)
Czech Republic	Recovery and Resilience Plan (May 2021)
Estonia	Programming for Recovery and Resilience Facility (May 2021)
Finland	Recovery and Resilience Plan (May 2021)
France	Domestic recovery package ("France Relance", September 2020) and Recovery and Resilience Plan (April 2021)
Germany	Domestic recovery package (June 2020) and Recovery and Resilience Plan (April 2021)
Hungary	Recovery and Resilience Plan (May 2021)
Italy	Recovery and Resilience Plan (April 2021)
Latvia	Draft Recovery and Resilience Plan (January 2021)
Poland	Recovery and Resilience Plan (April 2021)
Portugal	Recovery and Resilience Plan (April 2021)
Romania	Draft Recovery and Resilience Plan (March 2021)
Slovakia	Draft Recovery and Resilience Plan (March 2021)
Slovenia	Recovery and Resilience Plan (April 2021)
Spain	Recovery and Resilience Plan (April 2021)

REFERENCES

[1] Federal Environmental Agency (2020). The Green New Consensus: Study Shows Broad Consensus on Green Recovery Programmes and Structural Reforms
[2] European Commission (2020). Impact Assessment: Stepping up Europe's 2030 climate ambition
[3] Ember (2020). Vision or Division? What do National Energy and Climate Plans tell us about the EU power sector in 2030?
[4] European Commission (2021). Guidance to Member States: Recovery and Resilience Plans – Part 1
[5] European Commission (2021). Analysis of the recovery and resilience plan of Germany
[6] European Commission (2021). Analysis of the recovery and resilience plan of Italy
[7] European Commission (2021). Analysis of the recovery and resilience plan of Slovakia
[8] International Energy Agency (2021). Net Zero by 2050, chapter 2.6
[9] E3G (2021). Closing the Gap to Climate Neutrality, page 16
[10] European Commission JRC (2020). Towards net-zero emissions in the EU energy system by 2050
[11] Bloomberg (2021). Building New Renewables Is Cheaper Than Burning Fossil Fuels
[12] For an analysis of the situation in the Visegrád states, see E3G (2021). Boosting renewable energy in the Visegrad region
[13] Euractiv (2021). Czechs lead the charge against EU's 'do no harm' green criteria
[14] European Commission (2021). Technical guidance on the application of "do no significant harm" under the Recovery and Resilience Facility Regulation
[15] CEE Bankwatch Network (2021). The role of gas in the recovery and resilience plans
[16] International Energy Agency (2021). Net Zero by 2050
[17] European Commission (2021). Recovery and Resilience Plans' assessments
[18] WWF Bulgaria et al. (2021). NGO statement on gas investment in the Bulgarian NRRP
[19] Green Recovery Tracker (2021). Is the EU Recovery and Resilience Facility enabling a Green Recovery?

GREEN RECOVERY TRACKER

RECOVERY INVESTMENTS AND EU INDUSTRY DECARBONIZATION

A Green Recovery Tracker deep dive

The Green Recovery Tracker project analysed recovery plans and measures in 17 EU countries, covering 88% of the total grants available through the EU Recovery and Resilience Facility. This briefing focuses on the relationship between recovery spending and industrial decarbonization, looking at how much funding member states plan to dedicate to industrial sectors specifically, and what share of that funding is targeted at accelerating the green transition. Overall, €204bn out of the €685bn analysed will accelerate the green transition.*

We find that nearly 8% (about €52 bn) of the spending outlined in the 17 plans assessed is set to flow to industrial sectors. Nearly 20% (€9.3 bn) of this spending will accelerate the green transition. Although some plans contained specific measures to promote industry decarbonization (6%) and circular economy (9.4%), these areas ultimately did not feature strongly in most member state recovery plans.

CONTEXT: THE EU INDUSTRY DECARBONIZATION CHALLENGE

Industrial sectors, steel, cement, aluminum, paper and bulk chemicals, today account for roughly 21 % of EU CO_2 emissions (EU-27, year 2019)[1]. Meeting EU climate goals will require these sectors to make a fundamental shift from the CO_2 intensive processes and products that are central to their business models today. According to European Commission estimates, meeting the EU's increased climate target of a -55% reduction of GHG emissions on 1990 levels, by 2030, will require at least 25%[2] emissions reductions in industrial sectors over the next 9 years.

To date progress has been slow. Emissions from EU industrial sectors have remained largely flat since the early 2000s, aside from a sharp drop caused by the 2008/2009 economic crisis. The large potential for material circularity† – using fewer industrial materials by recycling and using them in different ways – remains underexploited. As low carbon investment accelerates in China and the US, Europe risks losing its advantage in clean industry. With many industrial plants (48% steel, 30% cement and 53% chemical)[2], coming up for reinvestment and refurbishment in the next

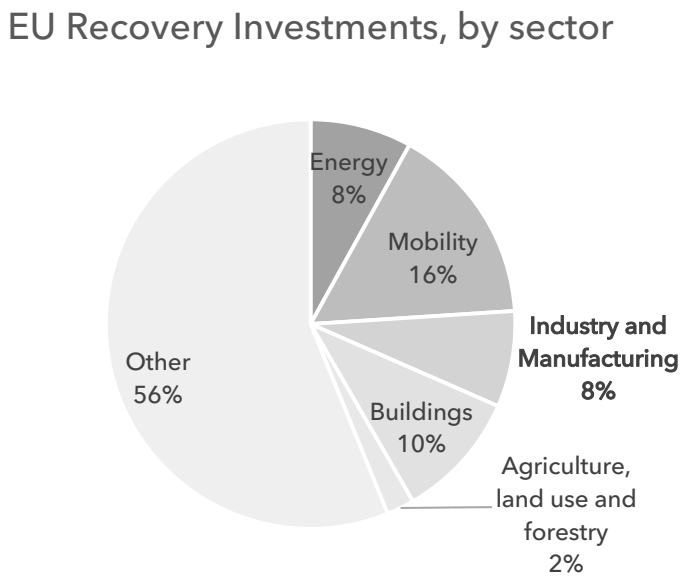
* Including RRF loans and other funding sources such as domestic budgets in cases in which they were used to (co-)finance recovery programmes

† Material Economics (2018), The Circular Economy: A Powerful Force for Climate Mitigation

9 years, time is running out to ensure the right investments are made to forge a pathway towards climate-neutrality.

As such, the EU Recovery and Resilience Facility presented a key opportunity for member states to start to make the required investments in transitioning industrial facilities, scaling up circular economy approaches and building out the renewable energy and green hydrogen infrastructure required for this shift.

ARE RECOVERY INVESTMENTS IN THE EU INDUSTRY SECTOR ALIGNED WITH THE GREEN TRANSITION?



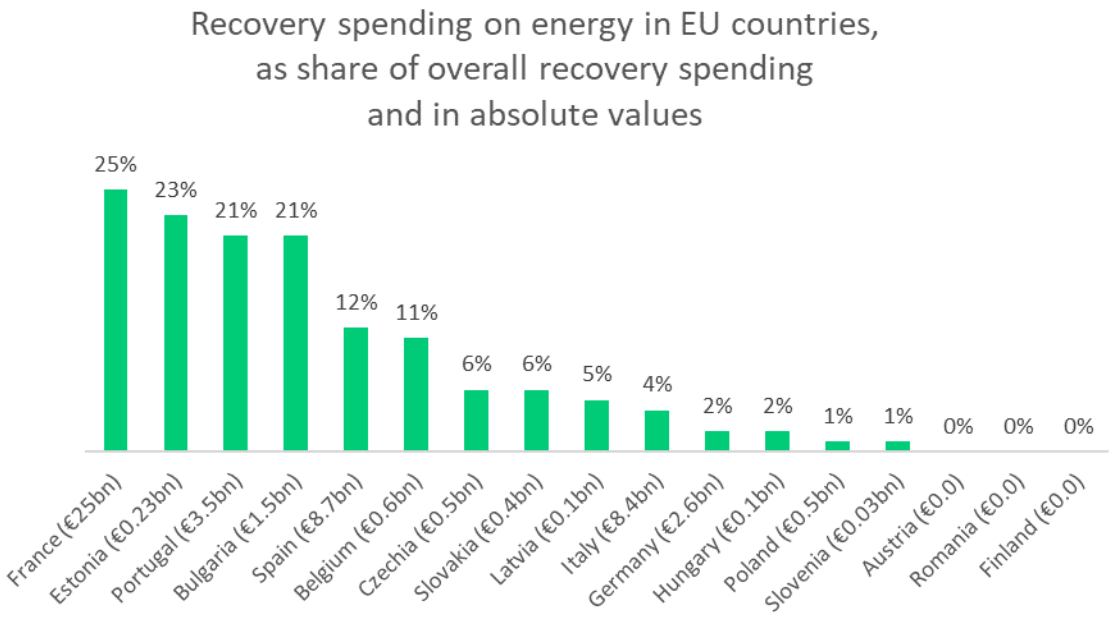
Our assessment of recovery measures in 17 EU member states shows that 7.6% of the total recovery investments (€52.2bn out of €685bn) are set to be invested in industrial and manufacturing sectors. By comparison, larger shares were allocated to mobility (16%) and buildings (10%).

About our data

This briefing is based on data gathered through the Green Recovery Tracker, a joint project between Wuppertal Institute and E3G, in collaboration with national experts. The data used was last updated on 15 July 2021 and is available on the website www.greenrecoverytracker.org. A full list of all countries covered, and the status of the documents on which this analysis is based for those countries, can be found in Annex 1.

Individual recovery measures have been assigned to specific sectors based on which sector's emissions are likely to be most affected by the respective measure. However, the boundary between sectors was not always clear cut. For example, investment in hydrogen assets and infrastructure featured prominently across energy, industry and mobility sectors. In this deep dive on industry, we included just those hydrogen measures that were clearly directed towards industrial usage. Resources set aside for renewable hydrogen production and capacity increase would, however, in practice also benefit industrial decarbonization. Measures allocated to the industry and manufacturing sector were quite far-ranging, encompassing R&D investments for energy-intensive industries and circular economy approaches, industrial waste water savings and include support services for SMEs.

There was a considerable variation in how much different member states chose to invest in industrial sectors. France, Estonia, Portugal and Bulgaria set aside the highest share for industry-related spending. France focused on lowering production taxes to boost competitiveness in combination with an acceleration program to simplify the starting of industrial businesses. In addition to its Recovery Plan 'France Relance', France recently also announced its 'France 2030' investment plan including €5bn for the decarbonization of industry. Belgium introduced measures to encourage companies to develop an industrial value chain for scaling up hydrogen use. Germany also focused on support for hydrogen use in industry. Germany proposes the establishment of an EU-wide integrated market of green hydrogen production and implemented a national hydrogen strategy[3]. Countries with access to more recovery funding were, of course, able to allocate higher absolute amounts to any single sector without necessarily having the highest share of spending, as can be seen in the absolute numbers which are also included in the chart below.

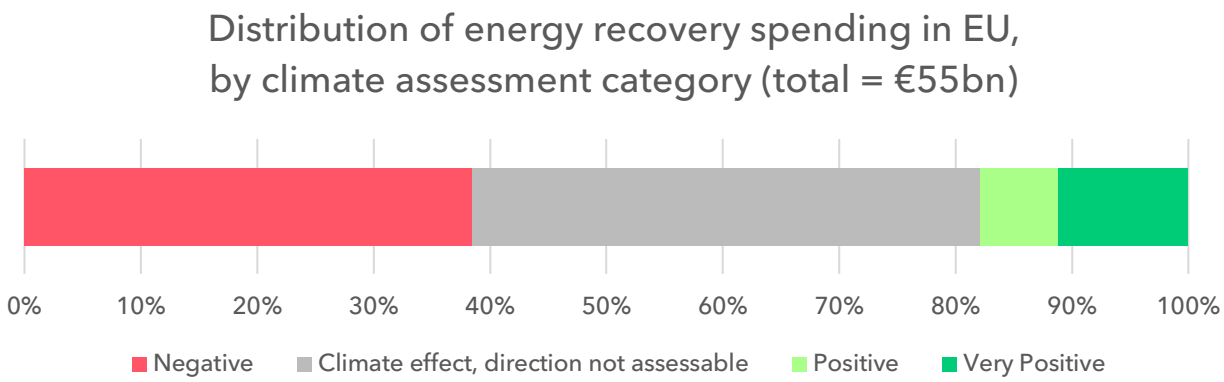


About 18% (9.4bn) of the industry investments assessed are expected to make a positive or very positive contribution to the green transition, for example by enabling improvements to waste and industrial water management, scaling up the usage of green hydrogen to replace more carbon-intensive energy feedstocks, and investments in energy efficiency measures.

However, the climate impact of €22.75bn (44%) worth of investments could not be determined and will depend on how the recovery plans are implemented. To put this into context, this is more than the entire recovery funding allocated to the Czech Republic, Austria and Hungary combined.

Most of these investments lack clear green targets, for example, investments in business support, digitization, innovation programs or support for industrial parks without specific links to the green transition. These measures could end up having a positive or negative impact depending on their ultimate design and implementation.

Lastly, we identified €20bn in industrial recovery spending which is likely to be harmful to the green transition. Critically, this amount is accounted for by just one measure: the reduction of the production tax in France. This measure was introduced without any links to climate targets of conditionality attached to the tax reduction that could lead to emissions reductions. As a result, we expect it to boost industrial production with a negative impact on overall emissions.



In preparing their Recovery and Resilience Plans, member states were also tasked with putting forward reform measures in addition to investments. The European Commission emphasized that "recovery and resilience plans need to reflect a substantive reform and investment effort. Both reforms and investments must be coherent and adequately address the challenges in the individual Member State."[‡] In our analysis, however, we found that few member states took the opportunity to introduce required reform measures. Moreover, almost all member state recovery plans were based on National Energy and Climate Plans (NECPs), which were often already unambitious compared to the EU's old climate target, and which will have to be updated now that the EU has agreed a new and higher climate target. NECPs also do not require member states to submit specific targets and plans for industrial decarbonization and, therefore, could not be used as a helpful basis for allocating funding for industry transition. Instead of using the availability of recovery funds and the associated planning process as an opportunity to enable additional ambition, including on the strategic level, most governments opted for the status quo.

The European Commission also called out shortfalls in national planning for the industrial transition in many of its assessments of recovery plans. It is important to note that there is no

[‡] European Commission (2021). Guidance to Member States: Recovery and Resilience Plans – Part 1

specific section for the industrial sector in the Commission's assessments (and in general in the EU – instead the distinction tends to be between sectors included in the EU emissions trading system (ETS), including energy-intensive sectors and non-ETS industries). As a result, we looked at sections referring to energy and carbon intensity, energy efficiency and circular economy, where assessments relevant to the industrial sector were also included. Below are four examples from the Commission's assessments on "challenges related to the green and digital transition" in the working documents analysing national plans:

- France:"*While the legal framework is in place to transition to a circular economy, France has not yet implemented all necessary steps, especially as regards waste management. France has put in place an ambitious national circular economy roadmap, a National Pact on Plastic packaging, and legislation to tackle waste and promote the circular economy. Nevertheless, many provisions remain to be implemented, and their enforcement may prove challenging. Some efforts are necessary to meet the new recycling targets. The municipal waste recycling rate of 44% is below the 2025 target of 55%. Investments needed to reach the EU recycling targets for municipal and packaging waste are estimated at EUR 4.6 billion.*"
- Belgium: "*The Belgian contributions to the energy efficiency target lack ambition and flexible energy networks are needed. [..] In addition to the infrastructure for electrical vehicles charging, the transition of industry and heavy-duty transport will require new infrastructure to produce and distribute new energy vectors, such as hydrogen, as well as to support carbon capture use and storage.*" [..] "*Achieving emission reduction in industry will involve substantial investments. Crucial for Belgian's economic resilience will be the climate transformation of energy-intensive industries, such as the major petrochemical pole around Antwerp and steel around Liège and Ghent, which will require important investments in carbon capture, low-carbon hydrogen and biomass-based feedstock production and related transmission/distribution infrastructures.*"
- Slovakia: "*Despite resource efficiency gains, and a relative decoupling of raw material use and economic growth, natural resources use remain at an environmentally unsustainable level. Slovakia´s secondary raw material use rate is well below EU average, with almost no progress since 2010. [..]However, fundamental changes in core systems of production and consumption which are prerequisite for the transition towards sustainability are even more challenging in Slovakia due to its existing economy model.*"
- Estonia*: "Since oil shale is Estonia's largest source of hazardous and non- hazardous industrial waste and key to improve its energy and resource efficiency as well as to reach its climate goals, the transition away from oil shale mining and use is by far the most important in terms of the green transition. This would require termination of financing of new oil shale infrastructure, including oil shale refineries. The government has, in the coalition agreement, agreed to phase out oil shale for power generation by 2035 and shale oil by 2040. For a long-term firm commitment and predictability of the investment environment, these targets should be laid down in strategic documents and accompanied by concrete steps towards the targets.*"

These examples illustrate that the recovery planning process has, all in all, not been used to strategically reorient national planning and budgeting in line with the EU's climate targets. Given that this process is now unavoidable due to the EU Climate Law, this task must remain a top priority item on the agenda of national governments – and solutions must be found for all financing needs which are not yet covered, either through other sources of public finance, or private finance, depending on the context.

CONCLUSIONS AND OUTLOOK

Overall, the Green Recovery Tracker identified €204bn in recovery spending that will accelerate the transition in the countries which we analyzed. 8% of overall recovery spending is set to go to the industrial sector, in comparison to 16% and 10% for the mobility and buildings sectors respectively, and a further 8% for the energy sector.

Despite the urgent need for investment and reform in EU industrial sectors, industry decarbonization, ultimately, did not feature strongly in most member state recovery plans. This follows a longer pattern of a lack of robust policymaking to drive change in industry sectors at member state level. Aside from notable exceptions such as Sweden and the Netherlands, most EU member states do not have a dedicated policy framework in place to incentivize mitigation efforts industrial sectors specifically. The main policy levers for EU industrial decarbonization lie at the EU level via the EU Emissions Trading System and the Industrial Emissions Directive.

Moreover, member states are currently not required to develop plans for decarbonizing industrial sectors as part of the National Energy and Climate Plans (NECPs) planning and reporting framework, under the Energy Union Governance Regulation. NECPs formed the basis for many member states recovery plans. Without an existing framework, set of targets and measures for industrial decarbonization, member states will have found it more challenging to quickly pull together concrete and comprehensive investment plans for industrial sectors.

On the cusp of a decade in which a major wave of reinvestment in EU industrial assets is due, this was a missed opportunity. There are two main ways to rectify this going forward:

- Many of the milestones for member state recovery plans have already been set. However, where there is still space for revisions with plans still being drawn up, the European Commission should encourage member states to ensure a strong focus on industrial decarbonization.
- Ensuring comprehensive legislation on industrial decarbonization and funding for investments in the transition at EU level.

The European Commission has already made substantial progress on the second of these two levers. The Fit-for-55 package, released in July 2021, included a range of measures specifically aimed at accelerating industry decarbonization: additional support for early-stage

commercialization of innovative production processes via a stronger Innovation Fund and the provision of Carbon Contracts for Difference (CCFDs), a more robust anti-carbon leakage system in the form of the proposed Carbon Border Adjustment Mechanism (CBAMs) and targets to ensure green hydrogen uptake and prioritization for industry sectors.

As these proposals make their way through the legislative process over the course of 2022, it will be critical to ensure they are strengthened in such a way that they create strong enough incentives for industrial companies to shift to cleaner production processes. There is already a widespread perception backed up by numerous studies[§] that industry sectors have had a relatively free ride so far. To ensure that CBAMs and CCFDs do not contribute to that dynamic they will need to be accompanied by a strong ask from industrial sectors in return, effectively coming at the cost of some of the supports (e.g. free emissions allowances) they benefit from currently.

Ensuring sufficient and targeted investment at EU and member state level in industrial decarbonization is a key issue for the just transition and for Europe's economic cohesion. EU industrial sectors have faced considerable challenges since the global financial crisis 2008-09: structural declines in demand, increased international competition, volatile raw material prices and overcapacity in the global market. By supporting the shift to near-zero emissions industrial production processes and scaling up circular economy approaches, EU member states will be able to create a long-term future for these sectors in Europe, securing jobs throughout the industrial value chain. By doing so in a way that benefits all regions, EU recovery funding and an EU clean industry package can reduce the risk of fragmented national policies and start to bridge inequalities in the shift to a climate neutral economy.

This analysis was written by Johanna Lehne (E3G) and Helena Mölter (Wuppertal Institute). The authors would like to thank Timon Wehnert and Jacqueline Klingen (both Wuppertal Institute) for valuable inputs and support.

[§] https://carbonmarketwatch.org/wp-content/uploads/2021/05/Presentatie_AdditionalProfits7Junevs2.pdf

ANNEX 1: COUNTRIES AND MEASURES INCLUDED IN THE QUANTITATIVE ANALYSIS

Country	Recovery plans and/or measures analyzed
Austria	Recovery and Resilience Plan (April 2021)
Belgium	Recovery and Resilience Plan (April 2021)
Bulgaria	Draft Recovery and Resilience Plan (February 2021)
Czech Republic	Recovery and Resilience Plan (May 2021)
Estonia	Programming for Recovery and Resilience Facility (May 2021)
Finland	Recovery and Resilience Plan (May 2021)
France	Domestic recovery package ("France Relance", September 2020) and Recovery and Resilience Plan (April 2021)
Germany	Domestic recovery package (June 2020) and Recovery and Resilience Plan (April 2021)
Hungary	Recovery and Resilience Plan (May 2021)
Italy	Recovery and Resilience Plan (April 2021)
Latvia	Draft Recovery and Resilience Plan (January 2021)
Poland	Recovery and Resilience Plan (April 2021)
Portugal	Recovery and Resilience Plan (April 2021)
Romania	Draft Recovery and Resilience Plan (March 2021)
Slovakia	Draft Recovery and Resilience Plan (March 2021)
Slovenia	Recovery and Resilience Plan (April 2021)
Spain	Recovery and Resilience Plan (April 2021)

REFERENCES

[1] European Environment Agency (2021). EEA greenhouse gases - data viewer
[2] Agora Energiewende and Wuppertal Institute (2020). Breakthrough Strategies for Climate-Neutral Industry
[3] Bundesministerium der Finanzen (2021). Deutscher Aufbau- und Resilienzplan

GREEN RECOVERY TRACKER

RECOVERY INVESTMENTS AND THE GREEN MOBILITY TRANSITION

A Green Recovery Tracker deep dive

The Green Recovery Tracker project analysed recovery plans and measures in 17 EU countries, covering 88% of the total grants available through the EU Recovery and Resilience Facility. This briefing provides an in-depth analysis on the relation between the assessed recovery spending and the energy transition. Our analysis shows that 16% of all recovery spending is directly relevant to the mobility sector's transition.

CONTEXT: COVID-19 CRISIS AND THE MOBILITY SECTOR

Mobility and transport account for a quarter of greenhouse gas emissions in the EU, and transport is the only sector where emissions have increased since 1990. Approximately 70% of transport-related greenhouse gas emissions are caused by road traffic.* Moreover, energy supply for the transport sector is dominated by fossil fuels. The EU's Climate Target Plan (COM(2020) 562 final) envisages increasing the share of renewable energies to 24%, from 6% in 2019.

A strong contribution of the transport and mobility sector is crucial to achieving the European 55% target by 2030. With its 'Sustainable and Smart Mobility Strategy', the European Commission is setting concrete milestones to ensure a smart, sustainable and resilient return from the COVID 19 crisis. For example, the installation of 3 million public charging stations by 2030 is intended to promote the spread of zero-emission cars on European roads. Doubling high-speed rail and expanding cycling infrastructure over the next decade will also make mobility between cities and towns healthier and more sustainable.†

To counter the drastic socioeconomic consequences of the COVID 19 pandemic, EU leaders agreed on a recovery package last year, the Next Generation EU, and a billion-euro EU budget for 2021 to 2027. The Recovery and Resilience Facility (RRF) was established as the central instrument of the Next Generation EU, supporting investments and reforms in member states. However, national plans for the spending of RRF funds must meet binding climate and digital targets in order to achieve the 2050 climate neutrality goal. In numerical terms, this means achieving a benchmark of 37% for climate investment and reform, which many recovery plans

* https://ec.europa.eu/clima/eu-action/transport-emissions_en
† https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

have so far threatened to miss.‡ The Green Recovery Tracker assesses the contribution of 17 EU member states' recovery plans to the green transition.

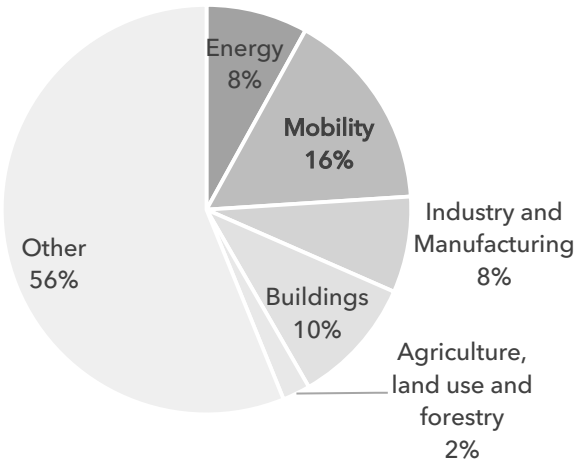
This briefing provides an in-depth analysis of assessed national recovery spending in the mobility sector with the aim of examining their impact on the envisaged green mobility transition.

About our data

This briefing is based on data gathered through the Green Recovery Tracker, a joint project between Wuppertal Institute and E3G, in collaboration with national experts. The data used was last updated on 16 July 2021 and is available on the website www.greenrecoverytracker.org. A full list of all countries covered, and the status of the documents on which this analysis is based for those countries, can be found in Annex 1. Individual recovery measures have been assigned to the specific sectors based on the question what sector's emissions will be most affected by the respective measures.

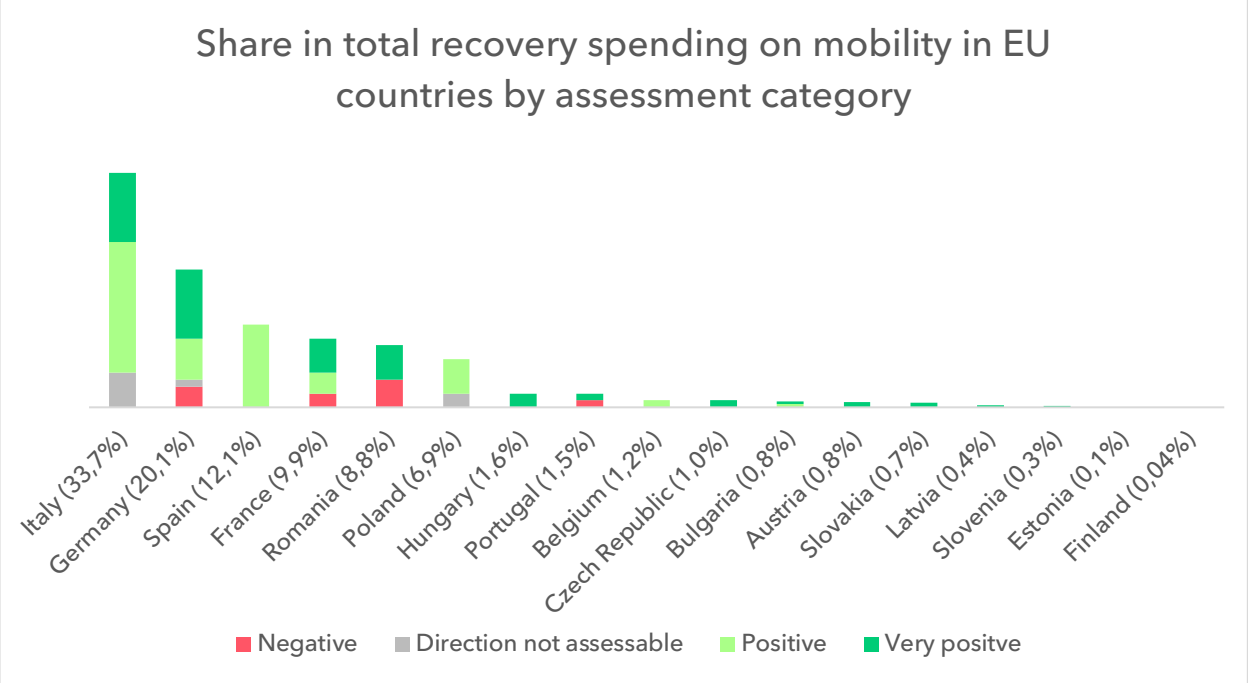
The assessment of recovery programmes in 17 EU member states shows that 16% of the total recovery investments (€109bn out of €685bn) are spent in the mobility sector. Compared to the energy, buildings, agriculture and industry sectors, the mobility sector accounts for the largest share of recovery investments in the EU, followed by the buildings sector (10%) and the energy sector (8%).

EU Recovery Investments by sector

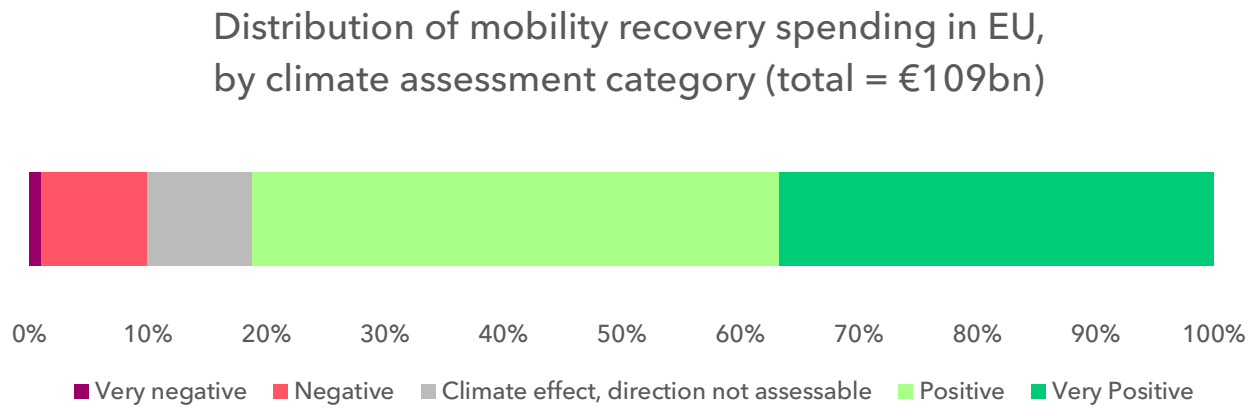


‡ https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2397

Member states show a wide variety of shares allocated to the transport sector: with about 37 billion euros (34%), Italy has by far the highest share of mobility-related spending, followed by Germany, which spends 20% of the total investment (€109bn), and Spain with a share of 12%. Other EU countries invest less than 1% of their programmes into mobility measures.



ARE RECOVERY INVESTMENTS IN THE EU MOBILITY SECTOR ALIGNED WITH THE GREEN MOBILITY TRANSITION?

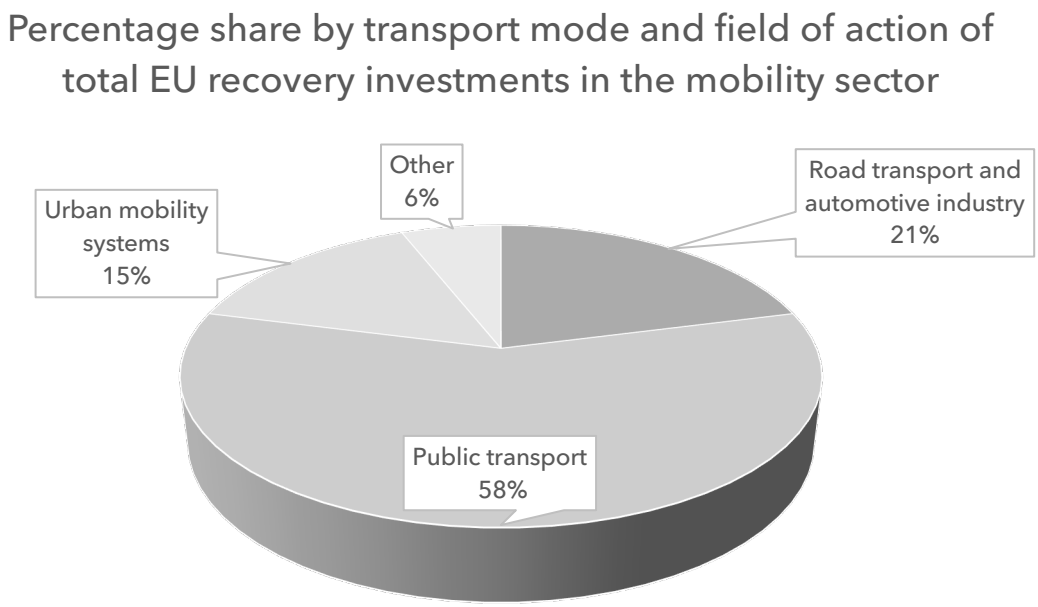


82% (€89.2bn) of the mobility recovery spending in the EU is considered to make a positive or very positive contribution to the green transition.

Typical measures that are rated "positive" or "very positive" are investments into the expansion and optimization of railway networks; investments into upgrading of urban transport systems and active mobility; investments into the renewal of public transport vehicle fleets and rolling stocks; or support programmes for the purchase of e-vehicles and charging infrastructure, targeted both at individuals and enterprises. On the other hand, 9% (€10.3bn) of the measures that were considered problematic comprise the extension of road networks; support programmes that also cover combustion vehicles; or support measures for the aviation sector. The impact of 9% (€9.6bn) of the total recovery investments still needs to be assessed and depends on the individual implementation of the recovery plans.
Of the total investment in mobility-related measures approximately 76% is earmarked for infrastructure plans, mostly for rail and urban transport, but also for new road construction. Some of the investments envisaged in the national recovery plans are rather nonspecific and labelled as "sustainable and safe transport" or "clean mobility", which makes a more accurate assessment impossible.

WHAT PARTS OF THE MOBILITY SECTOR WILL BENEFIT MOST FROM RECOVERY INVESTMENTS?

Recovery measures are allocated to the following areas as follows:



For the following analysis, we divided the measures by mobility mode and transport means into the following categories:

- road transport, including road infrastructure investments, support programmes for purchasing road vehicles, and direct financial support for the automotive industry
- long-distance public transport, including nation-wide railway networks
- urban transport, including urban public transport and active mobility.
- other, including aviation, water transport and alternative fuels production.

SUPPORT MEASURES FOR ROAD TRANSPORT AND AUTOMOTIVE INDUSTRIES

As shown in the diagram above, recovery investments for road transport and automotive industries constitute about 21% (€23.1 bn) of total EU recovery investments (€109.3 bn).
This area includes some of the measures considered to be particularly detrimental to the greening of the transport sector. Specifically, road infrastructure investments often tend to cement the status quo of mobility systems. For example, according to the GRT report on Portugal, the country proposed to invest €0.6 bn into extending cross-border motorways to Spain while neglecting the underdeveloped cross-border passenger rail links; or into the improvement of the regional road network in the islands of the Azores by setting up road terminals or car parks outside the urban centres. Another example in this respect is the €4.5 billion investment planned in Romania to improve its basic road and motorway infrastructure. Although the proposed package mentions smart traffic management systems and charging stations for electric vehicles, the GRT country report still rates the overall package as "negative", since no clear sustainable targets are set and there is still a strong orientation towards a fossil fuel-based automotive economy.
On the other hand, infrastructure programmes with an explicit focus on e-vehicle charging are rated positive or very positive (see the box "Support for individual motorised mobility" below). One example is the planned contribution of €20 million for private charging infrastructures for housing companies in the Finnish plan. The programme maintains the existing support for the development of private charging infrastructures and extends it to workplaces, making electric mobility more attractive and convenient.

Support for the road transport sector can also take the form of support programmes for the purchase of vehicles or direct support for the automotive industry. For the most part, this includes positive rated measures such as the promotion of zero-emission road vehicles through financial support for private and public vehicle procurement. Still, some member states also promote combustion vehicles or hybrids. Germany, with its strong automotive industry, combines all shades of support programmes for vehicle purchase: Roughly 15% of German recovery investments are targeted at the mobility sector. Those include support measures, premiums and tax exemptions for pure e-vehicles (overall: €2.2bn) but also more ambivalent programmes that allow plug-in electric vehicles (such as the innovation premium for new car,

worth € 0.7bn); and even negative measures that promote new diesel fuelled trucks (National truck fleet renewal programmes, overall: €1bn).

Support for individual motorised mobility

It needs to be mentioned that there are good reasons to exclude all investments that support motorised individual mobility from the "positive" and "very positive" list.

Support for individual motorised mobility, including private e-vehicles, may not be regarded as 'green', since they perpetuate the existing, crisis-shaken mobility system and its negative impacts, including the consumption (and privatisation) of scarce urban space, air and noise pollution, accidents, or social inequities.

On the other hand, a deep transition of the mobility system towards active mobility and a renewed public transport system will take time - that is lacking from the climate perspective. In order to meet their short- to mid-term climate objectives, countries and cities will have to rely on electrifying vehicle fleets (Publication - Towards a Climate-Neutral Germany by 2045) while simultaneously restructuring their mobility system. From this perspective, investments into the electrification of vehicle fleets are urgently needed. This is the reason why support programmes for BEVs are rated "very positive".

Still, it is also crucial that subsidies for private e-vehicles and related infrastructure will be phased out in the mid-term, and are accompanied with (higher) investments into public transport and active mobility. A cross-country comparison shows that in all EU countries, the share of investments in public transport and active mobility accounts for half or more of each country's total mobility-related expenditure, which at least proves that all countries are moving in the right direction. Countries with a share of more than 80% in the above-mentioned segments are Slovenia, Slovakia, Austria, Bulgaria, the Czech Republic, Hungary, Belgium, Poland and Italy. However, the picture is distorted if one considers that in some of the poorer EU countries modernisation pent-up demand is generally high.

SUPPORT MEASURES FOR PUBLIC TRANSPORT

Regarding investments into long-distance public transport, we found it important to distinguish between short term compensations for lost profits from reduced passenger volumes during the Covid crisis (e.g. the German €2.5bn) on the one hand, and investments into the extension and modernisation of networks and rolling stock, or increasing service levels on the other hand.

With its Transport Connectivity Programme, Bulgaria, for instance, is placing a strong focus on the extension and modernization of rail infrastructure, which has been largely neglected in the past. Investments support the automated control of train movements and operation, or the acquisition of electric express trains to improve competitiveness with other modes of transport. However, the GRT country assessment on Bulgaria found that the funds allocated to public transport are still too low in view of the current state of the railroad infrastructure and also need to be concentrated more on the less well-connected northern part of Bulgaria.

Even though Italy has the highest share of mobility-related expenditure, one third of the planned investment measures are only likely to bring about a gradual shift to a climate-neutral economy. As an example, the renewal of the public transport vehicle fleet in Italy may not be fully compliant with zero emission guidelines and may also include regular trains. In addition, it has been identified that there is a significant imbalance in the allocation of funds: The RIP dedicates a large part of the total budget to mobility measures, especially to the expansion of (high-speed) rail connections, while only a small portion (less than 1%) is earmarked for the promotion of electric mobility and the greening of public transport. The uneven distribution and neglect of relevant future domains will consequently do little to reduce greenhouse gases in the transport sector or improve air quality. According to the government's own assessment, the substantial investment in high-speed rail infrastructure will only lead to an emission reduction of 2.3 Mt CO2e out of 174 Mt CO2e needed to reach the decarbonisation target by 2030.

SUPPORT MEASURES FOR URBAN MOBILITY SYSTEMS

In order to create more liveable cities and communities where the focus is on people rather than cars, sustainable mobility solutions are required, especially in the area of urban transport. Here, investments mostly concern the expansion and optimization of the light rail or bicycle network. According to the EU Commission's analysis[§], component 15 of Portugal's Recovery Plan addresses several transport infrastructure challenges to reduce emissions and improve public transport by making it more accessible and promoting better traffic management and planning capabilities. Towards this end, the component, worth around €1 billion, includes reforms and investments to foster sustainable public transport through the expansion of metros in Lisbon and Porto, the construction of a light rail system in Lisbon, a rapid bus system in Porto, and the purchase of zero-emission buses for public transport. In the field of active mobility, Belgium sets an example with its Velo-Plus program, which builds on the development of new high-quality and safe cycling infrastructure in Brussels and to/from Brussels, enabling both medium- and long-distance trips in and to the region. It consists of bike lanes along major roads, structural bike paths, and facilities along urban barriers such as rail, canal or highway.

CONCLUSION AND OUTLOOK

The main take-aways from the above analysis are as follows:

- An important finding is that 80% of the measures invested in the mobility sector, which with 16% (€109bn) has the largest share of total recovery spending (€685bn), make a positive contribution to the green transition.

[§] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0146&from=EN

- The measures can be divided into four key areas that have benefited most from these investments: Road transport, long-distance transport, urban transport and other forms of transport.
- One area of concern is that one-fifth of mobility-related recovery spending still goes to road transport infrastructure and in the form of subsidies to the automotive industry, which in the long run complicates the transition to a truly sustainable mobility ecosystem that prioritises public transport and active mobility over the use of private vehicles.
- Given the ambitious target set by the European Union, the overall spending is unlikely to be sufficient, especially in view of the urgent need to cut emissions, improve air quality and health conditions in urban areas.

This analysis was written by Stefan Werland and Luisa Fahrenkrog (both Wuppertal Institute).

ANNEX 1: COUNTRIES AND MEASURES INCLUDED IN THE QUANTITATIVE ANALYSIS

Country	Recovery plans and/or measures analyzed
Austria	Recovery and Resilience Plan (April 2021)
Belgium	Recovery and Resilience Plan (April 2021)
Bulgaria	Draft Recovery and Resilience Plan (February 2021)
Czech Republic	Recovery and Resilience Plan (May 2021)
Estonia	Programming for Recovery and Resilience Facility (May 2021)
Finland	Recovery and Resilience Plan (May 2021)
France	Domestic recovery package ("France Relance", September 2020) and Recovery and Resilience Plan (April 2021)
Germany	Domestic recovery package (June 2020) and Recovery and Resilience Plan (April 2021)
Hungary	Recovery and Resilience Plan (May 2021)
Italy	Recovery and Resilience Plan (April 2021)
Latvia	Draft Recovery and Resilience Plan (January 2021)
Poland	Recovery and Resilience Plan (April 2021)
Portugal	Recovery and Resilience Plan (April 2021)
Romania	Draft Recovery and Resilience Plan (March 2021)
Slovakia	Draft Recovery and Resilience Plan (March 2021)
Slovenia	Recovery and Resilience Plan (April 2021)
Spain	Recovery and Resilience Plan (April 2021)

RENOVATE 2 RECOVER

HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

WITH COUNTRY PROFILES FOR 18 MEMBER STATES

Undertaken by E3G with input from National Partners
Commissioned by the Renovate Europe Campaign

E3G
RENOVATE EUROPE
GREEN RECOVERY TRACKER

This Study was undertaken by E3G, an independent European climate change think tank accelerating the transition to a climate safe world. E3G is made up of world leading strategists on the political economy of climate change, dedicated to achieving a safe climate for all. **The Study was commissioned by the Renovate Europe Campaign**, an EU-wide political communications campaign with the ambition to reduce the energy demand of the of the building stock in the EU by 80% by 2050 through legislation and ambitious renovation programmes. There are currently 49 partner companies and associations actively engaged in the work of the Campaign, of which 18 National Partners active in the Member States.

Vilislava Ivanova
Pedro Guertler
Adeline Rochet
Kevin Mass
undertook the work on behalf of E3G

Caroline Simpson
Afroditi Psatha
Adrian Joyce
undertook the work on behalf of the Renovate Europe Campaign

The National Partners of the Renovate Europe Campaign were closely involved in the preparation of this Study. Each Country Report was verified and checked before publication thanks to the work of the following persons:

Austria: Johannes Fechner (17&4)
Belgium: Koen Peeters (Rockwool, as leading participant in Renovate Belgium)
Bulgaria: Yordan Nikolov (BACIW)
Croatia: Anđelka Toto Ormuž (ROCKWOOL Adriatic, as a leading participant in HUPFAS)
Czechia: Tomáš Trubačík, Šárka Tomanová, Michal Čejka (Chance for Buildings, as part of the project supported by Technology Agency of the Czech Republic)
Denmark: Sofie Høyer Christensen (SYNERGI)
France: Danyel Dubreuil (Initiative Rénovons), Philippe Boussemart (Mur Manteau)
Germany: Henning Ellermann (DENEFF)
Greece: Alice Corovessi (INZEB)
Hungary: Anikó Pálffy (MEHI)
Ireland: Marion Jammet (IGBC)
Italy: Cecilia Hugony (Renovate Italy)
Latvia: Eloise Stancioff (Ekubirojs)
Poland: Fala Renowacji Team
Romania: Mihai Moia (ROENEF)
Slovakia: Richard Paksi (Buildings for the Future)
Slovenia: Vladimir Gumilar (SGG CCS)
Spain: Mª Ángeles Asenjo Dorado, Begoña Leyva Gómez (Confederacion Nacional de la Construccion CNC, as a leading participant in Renovate España)

The Study was reviewed by the following persons, whose valuable contributions enriched the final version:

Oliver Rapf (BPIE), Peter Sweatman (Climate Strategy and Partners), Jan te Bos and Roland Gladushenko (EURIMA), Luca Oggiano (Glass for Europe), Brook Riley (Rockwool), Celine Carré (Saint Gobain) and Elisabeth Hoffmann (VELUX)

The Study was supplemented by a review of the European Commission's assessment of National Recovery and Resilience Plans, available online here.

The formatting and layout was executed by mtstudio in Rome, Italy

This Study was publicly launched on the 13th of October 2021 at the REDay2021 Conference.

How to cite this report: E3G. (2021). Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation?

TABLE OF CONTENTS

INTRODUCTION

CONTEXT

To access EU Recovery Funding, Member States have prepared National Recovery and Resilience Plans (NRRPs) which, in each case, outlines a national package of reforms and public investment projects. The Plans aim to boost growth and strengthen the economic and social resilience of Member States in the wake of the COVID-19 crisis. The NRRPs must allocate all funds before the end of 2023, for spending by the end of 2026, with the objective of pulling the EU out of its current economic slump.

The NRRPs must also contribute, in a highly effective way, to the green and digital transitions. The disbursement of funds from the Recovery and Resilience Facility (RRF), which is the key innovation of the Next Generation EU (NGEU) initiative, must firmly set the EU on the path to a sustainable and resilient recovery, creating jobs while supporting its green priorities. To this end, at least 37% of the RRF is to be directly spent on climate-related actions (including energy renovation), and at least 20% on fostering the digital transition.

Energy renovation stands at the intersection of the EU's green, economic and social priorities: it is a labour-intensive sector that will boost skilled local jobs[1] and tackle social inequalities, particularly energy poverty, shifting the built environment on to a long-term sustainable footing by reducing energy demand and CO_2 emissions. Energy renovation programmes also offer an opportunity to integrate and drive wider benefits including improved accessibility, health, reduced indoor and outdoor air pollution, climate adaptation and broader physical resilience, and urban regeneration.

The EU acknowledged, before the COVID crisis hit, the large economic stimulus potential of energy renovation, as well as its environmental and societal benefits, by enshrining the Renovation Wave Strategy as a flagship initiative in its European Green Deal[2]. A renovated building stock is a prerequisite to achieving the 2030 Fit-For-55 climate targets and the 2050 target for a climate-neutral continent. Renovation is also one of Next Generation EU's flagship areas for Member States to prioritise in their NRRPs. At the launch of the Commission's Renovation Wave strategy, Energy Commissioner Kadri Simson illustratively suggested that if Member States allocated one third of the 37% climate earmark in the RRF to supporting renovation of the EU's buildings[3], investment would amount to over €80bn, approximately 12% of the total RRF funding.

However, the scale of renovation needed to meet the EU climate objectives cannot be achieved with public financing alone. The Commission estimates that the EU invests €85-90bn in buildings' energy efficiency each year[4]. The Renovation Wave strategy estimates that the additional investment needed for renovation to meet the new 55% target, including decarbonising heat in buildings, is €275bn per year to 2030[5] - the largest climate investment gap in any sector. This means that the total investment needed to 2030 is over €3.5 trillion. Matching the NRRP funding with additional sources of private investment will be key to bridging this gap and boosting investor confidence. Deploying improved technical assistance to encourage uptake and better training of the required workforce will also be a determining factor.

The NRRPs offer a unique opportunity to establish a strong foundation for sustained delivery of renovation schemes by addressing these key sectoral challenges. They also present a chance to address the enormous potential locked up in the EU building stock as part of the green and digital transitions.

ABOUT THIS STUDY

This Study assesses the buildings-related elements of the NRRP's in 18 Member States: Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Poland, Romania, Slovakia, Slovenia and Spain[6]. The aim is to understand whether NRRPs position countries to achieve longer-term targets for more and deeper renovation, and whether NRRPs have the potential to be 'transformational' on the path to achieving national goals set out in the Long Term Renovation Strategies and EU goals set out in the Renovation Wave strategy. The Study was developed by E3G, bringing its experience of working on the Green Recovery Tracker, and was delivered in close cooperation with Renovate Europe's National Partners and Campaign Office.

1 Building Renovation: a kick-starter for the EU economy: short study
2 European Green Deal Strategy: here
3 Opening remarks by Executive Vice-President Timmermans and Commissioner Simson at the press conference Building a Climate Neutral Europe: here
4 EC, 2020, Renovation Wave Strategy here
5 EC, 2020, Renovation Wave Strategy here
6 Renovate Europe has National Partners in 17 of these Member States, and cooperated on a separate basis with Mur Manteau and Renovons initiative in France. Renovate Europe's 18th National Partner (in the Netherlands) was unable to participate in this Study as the Dutch NRRP has not yet been published.

Renovate Europe's National Partners have made substantial and crucial contributions to the content and value of this Study. They are perfectly positioned with their understanding of the national context and contacts with national governments to contribute to the assessment of the NRRPs, and, crucially, to act on the opportunities that are identified in each Country Profile to improve and support the implementation of NRRPs across the EU.

The assessment is qualitative, and each country profile focuses on the conditions for effective delivery of energy renovation, examining:

- Clarity and depth of ambition;
- Financial perspective and landscape;
- Multiple benefits and integration;
- Supply chain and project support; and
- Implementation framework.

Each Country Profile is accompanied by an annex that sets out, in more detail, the various programmes and reforms that each Member State includes in its NRRP. Where possible, the funding allocation for each programme is also included. The content of these annexes is drawn from an analysis of the European Commission's assessment of the NRRPs and the European Council's Implementing Decision for each NRRP.

LIMITATIONS

The Study centres on the investment measures for energy renovation in the NRRPs. The aim is to identify where investments will flow, what types of energy renovation will be supported, and to offer guidance to support and improve the quality of investments to maximise their impact and scalability. The Study does not assess the reform measures included in NRRPs due to their uniqueness for individual countries.

In the absence of a common template to describe measures in detail, Member States have adopted different approaches to defining them. This includes the variations in target definitions, aims, location of renovation measures in the plans, coverage of new build and renovation measures, and in some instances the merging of renovation as part of wider infrastructure investment in buildings (such as new equipment for public facilities like hospitals). We welcome suggestions to address any discrepancies if noticed.

A UNIQUE OPPORTUNITY TO GET RENOVATION ON TRACK

National Recovery and Resilience Plans (NRRPs) present a unique opportunity to accelerate the delivery of deep renovation across the EU. The analysis of the NRRPs in this Study demonstrates that significant renovation activity is planned and will be made possible through the successive disbursements of the Recovery Funding. But these renovations must be done properly, and the money must be spent well.

The NRRPs should be a frontline mechanism to prepare households and businesses for the transformation of the building stock as a whole. This unprecedented additional injection of public funds must set the EU building stock firmly on the path to achieving its Renovation Wave goals to 2030 and meeting the 2050 climate targets.

For NRRPs to be transformational towards achieving these goals, two key aspects need to be strengthened:

1. Ensure funding delivers a step change towards realising deep (or staged deep) renovations, going well beyond the 30% minimum energy saving recommendation set by the European Commission.

Only holistic deep renovations that reduce energy demand by at least 60% (for the worst-performing buildings) or result in an energy demand of 80kWh/m^2/year (for buildings of medium level of consumption) will bring the EU building stock in line to deliver the energy savings required to meet the EU's 2050 climate objectives. This is imperative to avoid lock-in effects, bearing in mind the enormous energy savings potential in the building stock and the fact that building owners only undertake significant works every 25-30 years.

According to the Commission guidance on the Recovery and Resilience Facility, renovations achieving medium depth savings (30% primary energy savings) are enough to qualify as contributing to the 37% threshold for climate-related spending. Analysis of the NRRPs in this Study reveals that the vast majority of renovation schemes in the NRRPs have adopted this minimum requirement for eligibility, with very few demonstrating clear ambition to go beyond it, nor to put in place the necessary incentives to do so.

Raising the depth of renovation (or planning upfront its deep renovation via a staged approach) will be crucial during the delivery period. Otherwise, the plans risk delivering incremental change to the building stock and missing opportunities to realise higher energy bill savings and to prevent carbon lock-in.

2. Invest in the right enabling framework to create sustainable renovation markets

The scale of the challenge to bring the building stock in the EU in line with the 2030 and 2050 goals is significant and the NRRPs alone will be insufficient to achieve these objectives. The NRRPs need to work hand-in-hand with other sources of public funding, and, critically, they must be used to leverage private finance without which the 2030 and 2050 targets are unattainable. The NRRPs must help build and integrate the energy renovation ecosystem by linking planned investments and reforms in a way that creates fertile ground for the renovation market to grow and 'deepen' beyond 2026.

Some of the key elements of where investment can help with market development include skills, certification, awareness raising and support for citizens through one stop shops and other support models that contribute to more interest and trust in renovation benefits. Offering technical assistance to companies and local governments, supporting the creation of energy efficiency databases and innovation in digital tools will also be crucial to help households and businesses in attaining buildings which are Fit-for-55, and Fit-for-2050.

The analysis of the NRRPs in this Study reveals rather limited foresight by Member States to set up enabling infrastructure capable of coordinating the renovation sector beyond the implementation of the individual measures in the NRRPs. In most cases there are no clear provisions to progressively attract private finance and investment or combine with other EU and national funding sources. A step-change in sustainability of financing is needed, and the focus must be on developing the necessary reforms and infrastructure to reduce risk, develop new business models and support innovative financing tools that help to crowd in private capital. As a result, investment efforts with the NRRPs risk 'falling off a cliff' after 2026 if no concerted consideration is given to the creation of vibrant renovation markets which sets the scene for sustained growth after 2026.

UNDERPINNING A STRONG FIT-FOR-55 PACKAGE FOR BUILDINGS

This Study demonstrates significant interest in investing in building renovation, which can contribute to a strong outcome for the Fit-for-55 legislative proposals, all of which would enter into force while NRRP funding is being invested. New legislative proposals affecting buildings and renovation have already been tabled: these include a revision of the Energy Efficiency Directive (EED), Renewable Energy Directive (RED) and a new Emissions Trading Scheme for heating and transport fuels. Other key pieces of legislation including the revised Energy Performance of Buildings Directive (EPBD) will follow shortly. An ambitious regulatory framework at EU-level is crucial to complement and drive action on the ground. NRRP funding can help to lay the foundations for strong support on, and effective implementation of, these regulatory proposals.

The strength of the overall package is critical for delivering on renovation, with individual elements playing pivotal roles. For example, the introduction of mandatory Minimum Energy Performance Standards (MEPS) under the EPBD would send a strong signal to the whole renovation value chain, from institutional investors to building users. Effective deployment of NRRP funds for renovation, by enhancing conditions for transposition of new rules and compliance, can underpin a strong legislative and delivery outcome for mandatory MEPS. Using investment to prepare and scale up the necessary technical assistance will be essential to make sure households and businesses find the support to be able to make informed choices, allowing them to meet regulatory requirements as they enter into force. Similarly, ensuring that renovations are delivered by highly qualified professionals is necessary for a successful buildings transition. In that respect the EED proposal for equivalent requirements for certification and training for providers of energy efficiency services and energy audits, are a welcome step forward – and one that NRRP investments can help see adopted and delivered effectively.

Done right, NRRP investment can ease agreement on, and the implementation of, a more ambitious legislative package for buildings – a virtuous cycle between ambition and deliverability that can drive the creation, investment in, and sustained growth of renovation markets across the EU. To unlock this, it will be critical to establish a positive feedback loop between EU institutions (in supporting effective deployment of NRRP funds) and Member States (in backing a strong legislative outcome from Fit-for-55 negotiations) that delivers a significantly improved building stock for citizens. Informed by the assessment below, Renovate Europe and its National Partners will work to support this outcome.

VOLUME AND DISTRIBUTION OF INVESTMENT

The study focused on quantitative data about the building energy renovation components of the NRRPs – some of which found in designated flagship initiatives in the Plans, and other located across the plans as part of infrastructure funding (e.g. hospital, education, public sector renovation schemes), competitiveness programmes (e.g. energy renovation funding for SMEs or enterprises). To the degree possible investment in new build projects and measures targeting renewable energy deployment has been excluded [7].

1. FUNDING ALLOCATION TO ENERGY RENOVATION OF BUILDINGS

Out of a total of €472bn foreseen to be disbursed to this Study's 18 Members States, €39.9bn is currently allocated to buildings energy renovation. Volumes of funding vary significantly – and not just in line with populations – from €86m in Slovenia and €101m in Austria, to close to €6.6bn in Spain and €8.6bn in Italy (Figures 1 and 2).

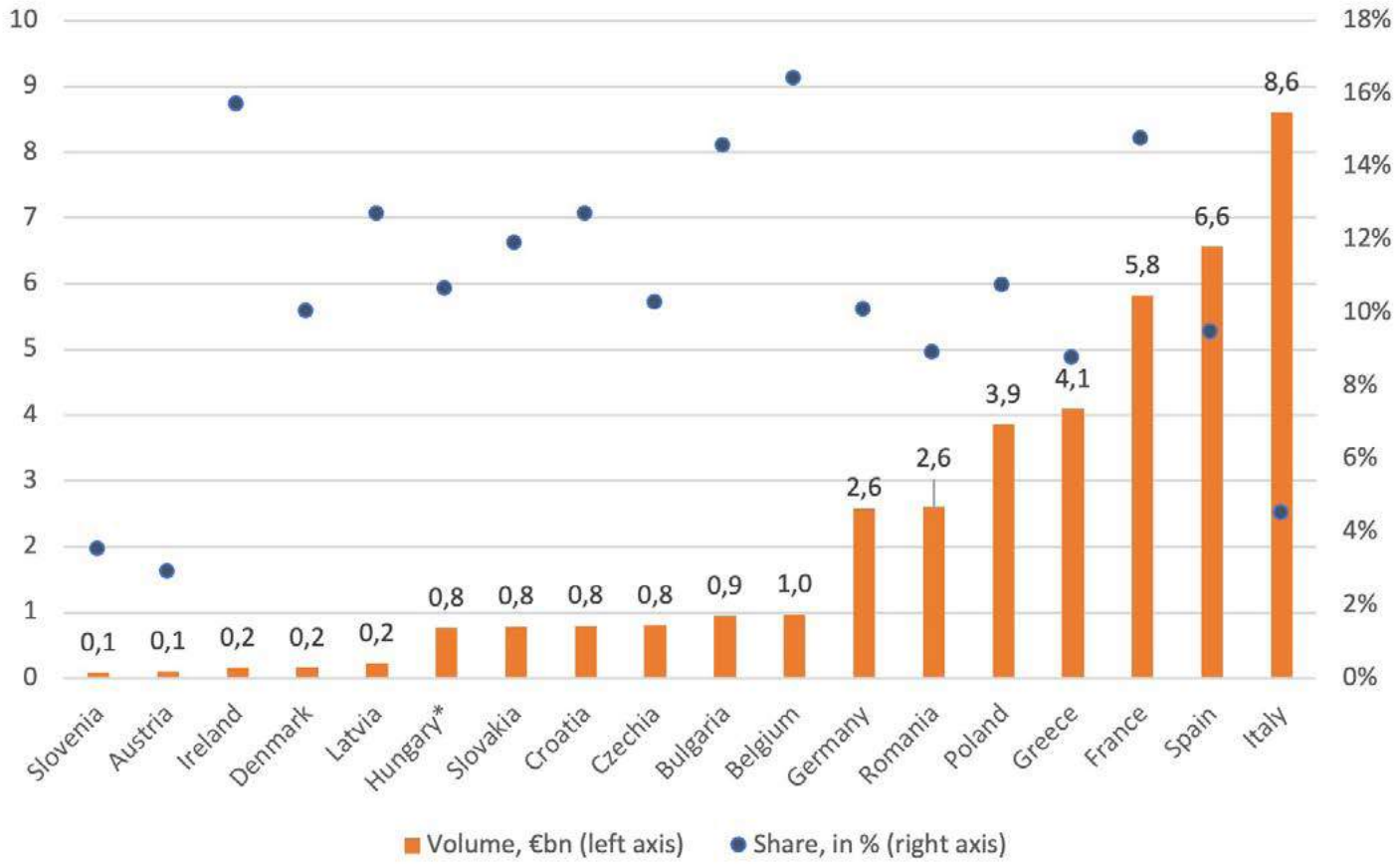


Figure 1. Energy renovation of buildings: funding volumes in NRRPs

**Hungary – based on conservative assumption that 25% "infrastructure development" funding in the public sector is allocated to building measures in the absence of sufficient detail to provide further breakdown, estimated range €0.8-€1bn. Population data based on Eurostat, as of January 2021 (here).*

7 Under the Regulation establishing the Recovery and Resilience Facility (REG (EU) 2021/241), the codes included here are: for SMEs/Enterprises – 024, 024bis, 024ter; for existing housing stock - 025, 025bis; for public infrastructure - 026 and 026bis.

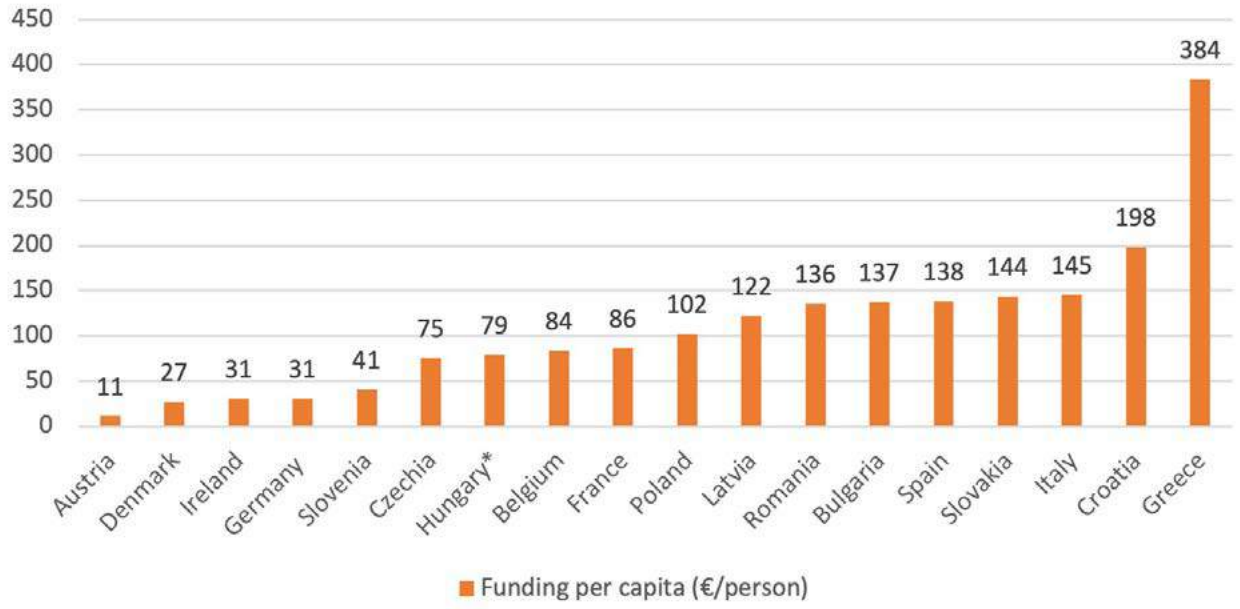


Figure 2. Energy renovation of buildings: funding per capita, same note applies to Hungary

The overall share of funding allocated to energy renovation across the 18 Member States is estimated at 8.4%, which is below the Commission's illustrative 12% of RRF funds overall being allocated to renovation. Excluding Italy, which has requested by far the most significant volume of funding overall (€191bn) but allocates a relatively small share of it to renovation (€8.6bn, or 4.5%), the average percentage is around 11%. It differs between countries: ranging from approximately 3% of total in Austria to 16.4% in Belgium. Five countries have allocated less than 10% of their NRRP allocation to buildings energy renovation, with the remaining allocating between 11-14% (Fig. 3).

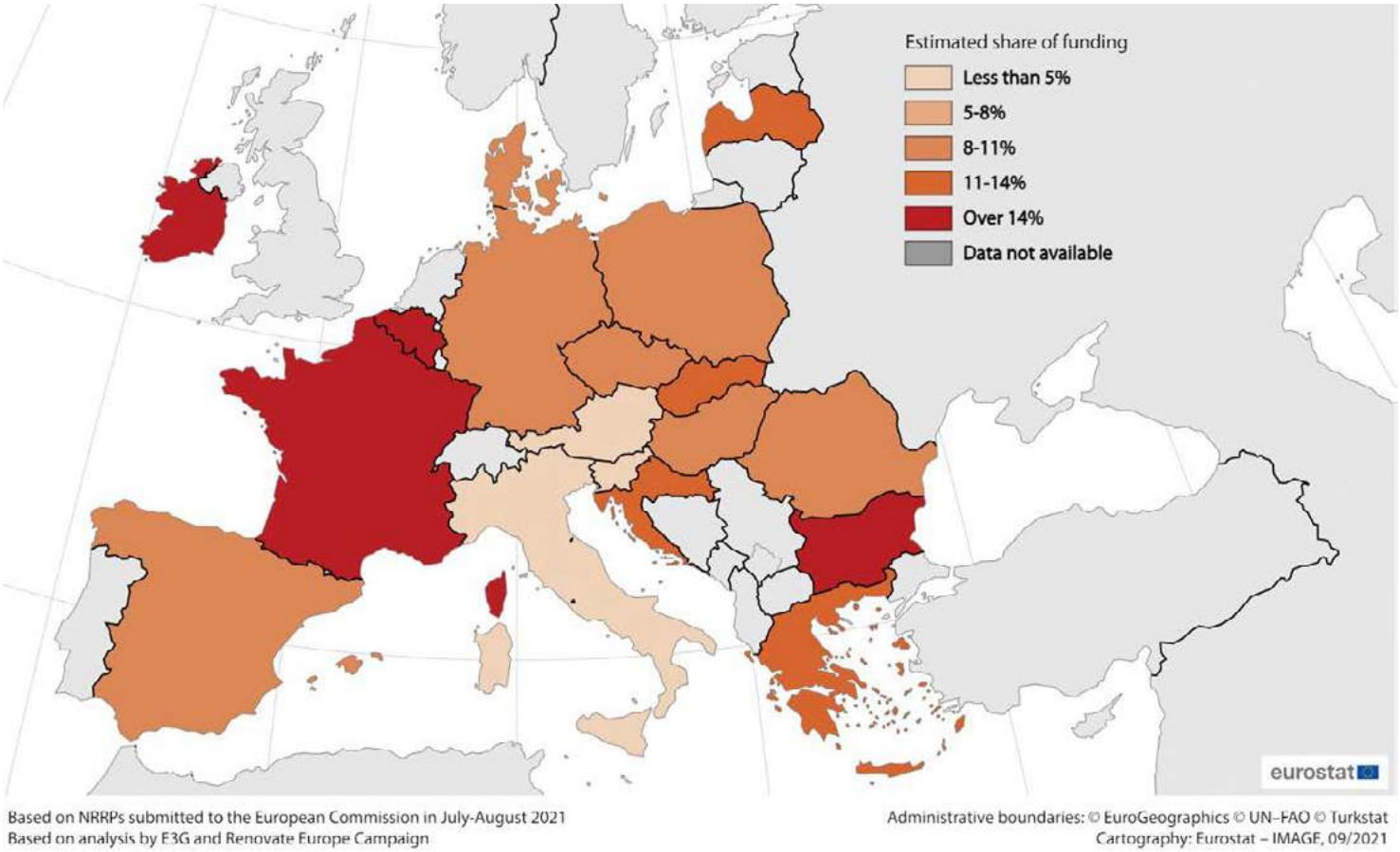


Figure 3. Share of funding allocated to energy renovation of buildings in NRRPs, in %

2. BREAKDOWN OF RENOVATION MEASURES BY BUILDING SEGMENT

Proposed investments in energy renovation are concentrated in the residential sector, which receives over €23bn (58%) of funding. At least 2% of it is explicitly targeting social housing as a sub-sector, driven by a €500m investment programme in France. Public sector buildings are the second largest target for investment with close to €13bn (34%). The remaining funding is allocated to the industry/commercial sector - €2.9bn (7%), with historic/heritage buildings and other funding including innovation and investment in skills attracting the remaining less than 3% (Fig. 2). Residential sector funding dominates in all countries except for Belgium, France, Croatia and Slovenia, for which public sector funding receives a larger share. In most cases, renovation measures are expected to deliver at least medium depth renovation, realising a minimum of 30% primary energy savings, with very few instances where countries explicitly target higher savings.

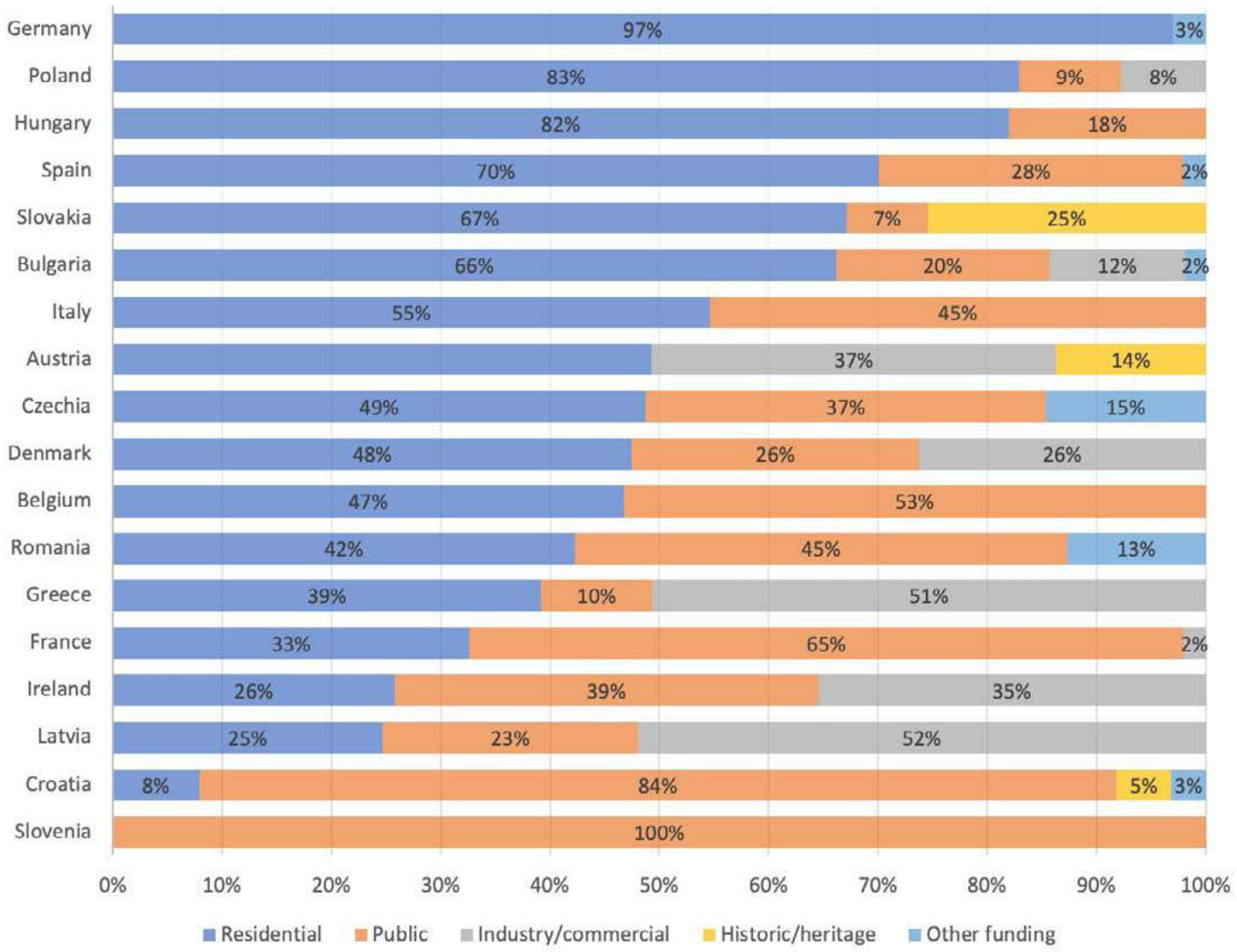


Figure 4. Breakdown of energy renovation measures by sector

ASSESSMENT METHODOLOGY AND SCOREBOARD

Information for this Study was provided by Renovate Europe National Partners based on a set of guiding questions and complemented by targeted discussions and review of the Commission's assessments of NRRPs. The Plans were assessed against five overarching criteria, each comprising several sub-criteria. The criteria and sub-criteria are summarised below.

CRITERION 1 - CLARITY AND DEPTH OF AMBITION

This category presents what the NRRP aims to achieve in terms of concrete objectives, how they relate to other renovation plans and what metrics will be used to monitor the depth, and hence impact, of energy renovation. Ambition in the NRRPs must be linked to clear targets and needs to build on existing national long-term renovation strategies to effectively reinforce and accelerate deep renovation across the EU.

Sub-criteria	Not addressed	Needs improvement	Strong	Transformational
Clarity of renovation targets	Absence of targets	Targets with limited indicators	Targets with good indicators, but only for some measures	Targets with specific and measurable indicators for all measures
Alignment with Long Term Renovation Strategies (LTRS)	No mention of LTRS	Qualitative link to LTRS	Quantitative contribution of NRRP to LTRS	Quantified contribution that goes beyond LTRS ambition
Depth of renovation ambition	Unclear or less than medium for most measures (<30% energy savings i.e., 40% climate tag*)	At least medium for most measures (30-60% energy savings, 100% climate tag*)	At least medium for most measures, some deep renovations (>60% energy savings)	Commitment to deep or staged deep renovation (>60% energy savings)

** The regulation establishing the Recovery and Resilience Facility (REG (EU) 2021/241) includes a Methodology for climate tracking, which spells out coefficients for the calculation of support to climate change objectives, depending on the type of intervention being funded. For energy efficiency renovation it differentiates between measures aiming to achieve, on average, at least a medium-depth renovation (counting 100% towards the climate objective of the regulation), and those that do not achieve those savings (counting as contributing 40% instead). See Annex VI for details – codes 024-026bis.*

CRITERION 2 - FINANCIAL PERSPECTIVE AND LANDSCAPE

This category evaluates the clarity and coherence of public and private investments dedicated to renovation. It does not focus on the volume of recovery funding. Rather, this assessment focuses on the need to increase the overall investment in renovation beyond EU and national grants. Understanding how the NRRPs contribute and find the optimal interplay between various funding sources, including efforts to crowd in private finance and investment, is an important stepping-stone in that direction.

Sub-criteria	Not addressed	Needs improvement	Strong	Transformational
Investment needs	No clear financial need defined	Defined elsewhere but not NRRP clarity	Defined with clear NRRP contribution	Defined, clear contribution, and clarity on remaining gap
Other public funds	No mention of other public fund use	Mentioned, but no clarity	Mentioned, with specific measures/ outcomes	Clearly articulated and complementary to NRRP
Crowding in private finance	Not mentioned or foreseen	Mentioned without detail	Clear plans to crowd in	Clear plans to crowd in + quantified indicators

CRITERION 3 - MULTIPLE BENEFITS AND INTEGRATION

This category explores whether renovation measures properly account for and plan to capture the multiple benefits they can generate and are well integrated with other NRRP pillars. Sub-criteria are partly reflective of the opportunities identified in the Renovation Wave Strategy. Renovation measures can contribute to core national priorities and other high-level EU objectives, ensuring that the energy and digital transitions work for society and can be accelerated. Integrating multiple benefits also acts as a motivating factor that can encourage people to renovate, improve 'public acceptability' of investing public funds in energy renovation, and garner the support of a wider set of stakeholders across business and civil society.

Sub-criteria	Not addressed	Needs improvement	Strong	Transformational
Tackling energy poverty	Not mentioned	Mentioned but not supported via measures	Partial measures in place	Measures in place with clear energy poverty targets
Support wider buildings sector decarbonisation	No mention of heating or cooling	Inclusion but no links to energy efficiency	Combined approach to energy efficiency, heating and cooling	Combined approach governed by Energy Efficiency First Principle
Encourage digitalisation in buildings and construction sectors	No mention of digitalisation opportunities in buildings	Implied link, no measures	Some measures to deploy digital solutions	Concrete plans and investment, measurable targets for digital solution deployment
Link to other relevant socio-economic benefits	No link between renovation and wider social benefits	At least one area linked (e.g. air quality, economic recovery, circular economy, adaptation)	At least one area with clear measurable indicators	Multiple areas with clear measurable indicators

CRITERION 4 - SUPPLY CHAIN AND PROJECT SUPPORT

This category explores the extent to which NRRPs create or strengthen enabling conditions for energy renovation. Facilitating access to renovations through technical assistance as well as focusing on the quality of the renovations at hand through reliable and competent workmanship will boost renovations across Member States. These enabling conditions will also have an important role to play in increasing the absorption rate of EU funding in the renovation field, crowding in private finance and investment, and ensuring that the renovations undertaken actually deliver the expected savings.

Sub-criteria	Not addressed	Needs improvement	Strong	Transformational
Future skills	No reference to future skills needs	Mention of needs, but no measures to support training / upskilling	Skills needs identified with concrete investment plans	Skills needs identified and quantified, linked to other areas relevant to buildings (heating & cooling, circularity, digitalisation)
Technical assistance	No reference to technical assistance	Reference to technical assistance, but no plans to support it	Some key technical assistance measures with support	Extensive technical assistance measures – targeting different stakeholder groups & geographic scales

CRITERION 5 - IMPLEMENTATION FRAMEWORK

This category checks that there are tools to legally assure the implementation of the renovation measures outlined in the NRRPs. Clear targets, milestones, and indicators, with institutional responsibility to monitor, review and course-correct where needed throughout the programming period is essential to improve the implementation of EU buildings policies at national, regional, and local levels.

Sub-criteria	Not addressed	Needs improvement	Strong	Transformational
Implementation plan	No clear milestones and final targets	Final targets, no milestones	Final targets, with milestones for some indicators	Final targets with milestones for all indicators
Institutional clarity	No clear administrative or ministerial responsibility	Lead identified, no clarity on monitoring & compliance framework	Lead identified, clear monitoring and compliance	Lead identified, clear monitoring and compliance, clear review & change process

SCORING METHODOLOGY

For each of the five criteria, the NRRPs are provided with an aggregate score. The aggregate score is based on the sum of points of individual sub-criteria. The points were allocated as follows: 1 point - not addressed; 2 points – needs improvement; 3 points – strong; 4 points - transformational. The aggregated score is reflected in the 'play button' infographic for each of the criteria at the top of the country profiles. Those are summarised below.

Normalised* points range	Score	"Play button" Infographic
2.5 – 4.0	"Not addressed"	
4.1 – 6.3	"Needs improvement"	
6.4 – 8.5	"Strong"	
8.6 – 10	"Transformational"	

** The five criteria have a different set of sub-criteria, and as a result have different minimum and maximum points. The scores have been normalised to a base of 10 points. This still leaves some variation within the ranges, so comparison between criteria and countries should be treated with caution.*

RELATIONSHIP WITH THE GREEN RECOVERY TRACKER

Data about the sectoral breakdown of energy renovation measures as part of overall NRRPs was initially drawn from the Green Recovery Tracker, developed by E3G and the Wuppertal Institute. As final NRRPs were published by the European Commission and Member States, they were gradually replaced as the basis for analysis. Due to these differences and the narrower focus on energy renovation of buildings in this Study, final funding allocations may differ slightly.

INSIGHTS BASED ON QUALITATIVE ASSESSMENT

For most countries and the majority of criteria, the aggregated score based on the assessment is 'Needs improvement' (Fig. 5). What this means is that countries are setting a reasonable basis to make progress on energy renovation but need to translate this into practical delivery, while needing to do considerably more to achieve a truly transformational outcome with the NRRP funding. The final section of this report provides some recommendations on how to achieve this.

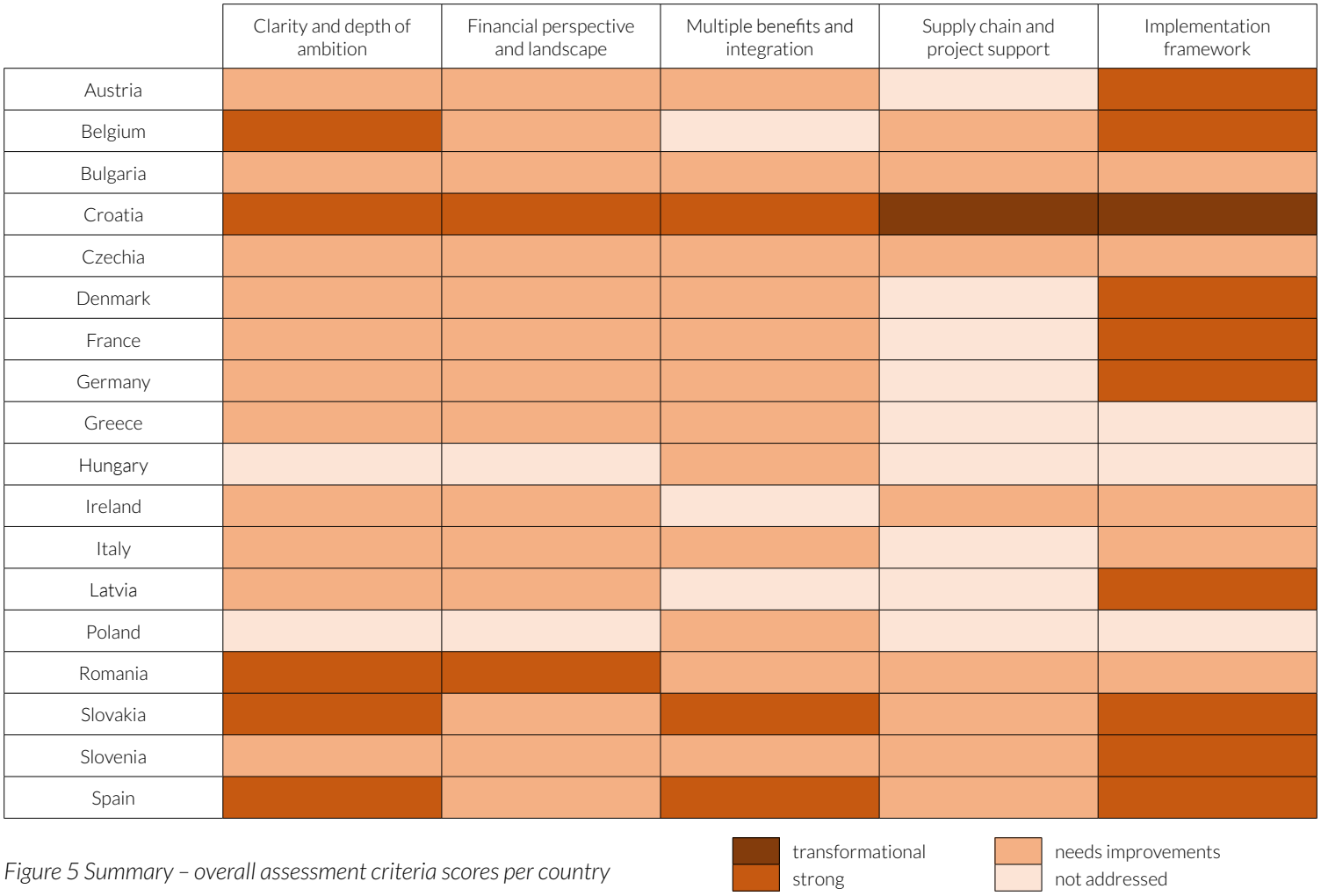


Figure 5 Summary – overall assessment criteria scores per country

For criterion 1 – ***Clarity and depth of ambition*** – only five countries score "Strong" by demonstrating clear ambition beyond "medium depth" renovation. Even where they do have ambition it is not for all building segments eligible for funding. In addition, very few provide quantified milestones for delivery in terms of energy or emissions savings, with Croatia and Spain being two notable exceptions. Most indicate delivery milestones in terms of number of buildings or properties to be renovated. In those cases, however, clear links between NRRPs and Long-Term Renovation Strategies (LTRS) are rarely drawn so it remains challenging to determine if the funding is well aligned with strategic objectives.

For criterion 2 – ***Financial perspective and landscape*** – only two countries scored "Strong", two did not address the topic substantively, and the vast majority are found under "needs improvement". The links between renovation investment needs and NRRP funding are not always articulated, and it is not always clear how NRRP funding will be combined with other public financing sources to plug investment gaps and create complementarity. In some instances (e.g. Czechia), funding is expected to replace existing financing resources like ETS revenue streams so it may not create additionality. Critically, the potential for NRRPs to address how to crowd in private finance and investment seems largely untapped and as a result there are missed opportunities to help create a long-standing market after the current funding streams are exhausted. Where supported, financial products like loans and guarantees, mortgage financing and portfolio investments tend to target the commercial and public sectors, rather than residential buildings.

For criterion 3 – ***Multiple benefits and integration*** – encompasses several distinct areas to build a better understanding of how well building energy renovation has been integrated with other strategic objectives: alleviating energy poverty, supporting wider decarbonisation of buildings, enabling digitalisation, and supporting the realisation of wider benefits like improved accessibility, air and environmental quality, adaptation, urban regeneration and use of sustainable materials. Unsurprisingly, countries have taken different approaches to programmes. Energy poverty is widely acknowledged, but less frequently matched with specific programmes, with France, Slovakia, Croatia and Austria being some of the notable exceptions. Decarbonisation of heating and cooling gets fewer mentions in NRRPs, with the majority of countries either not addressing or needing improvement on this sub-criterion. Overall, there are limited references to combined investment in decarbonising heating/cooling supply and energy efficiency, and few clear statements regarding the application of the Energy Efficiency First Principle. In some instances (e.g., Denmark, Ireland) it is expected that the Principle will be applied in practice as part of existing decarbonisation schemes for buildings. Similarly, plans to utilise NRRP funding for digitalisation in the buildings sector are not common – with six countries scoring "strong" on this sub-criterion. They put forward specific proposals to accelerate digital monitoring of energy efficiency or promote building energy management systems. Nearly all countries address at least one other priority in their energy renovation programmes, especially those for public sector buildings, while leaving room for improvement in terms of measurable progress indicators against additional strategic objectives.

For criterion 4 – ***Technical assistance and supply chain support*** – is the element with the most room for improvement, with nine out of 18 countries addressing neither one or both of the sub-criteria relevant for the score: support for technical assistance such as one stop shops, and support for supply chain development through skills, certifications or apprenticeships. Few countries include clear funding proposals for skills development. Among those that do, Croatia plans to finance a framework for green jobs needed for post-earthquake reconstruction, Romania aims to create specialised university courses and certification schemes, and Ireland will create a Green Skills Action Programme focused on the low-carbon economy. The creation or extension of one-stop-shops features in several plans, mostly for Central and Eastern European countries including Bulgaria, Croatia, Czechia and Slovakia, as well as Belgium.

Finally, for criterion 5 – ***Implementation framework*** – the majority of countries have provided clear information on lead ministries/authorities and set out monitoring and reporting processes, scoring "strong" on the Institutional clarity sub-criterion. There is, however, limited information about what processes may be used to course-correct during the NRRP implementation period and to continually apply lessons to overcome programme delivery challenges (e.g. to re-direct funding if needed or to respond to new regulatory requirements). There is significant room for improvement on the Milestones sub-criterion, for which seven countries scored "not addressed" or "needs improvement" by indicating high level objectives, but lacking clarity and intermediate targets.

On the level of individual sub-criteria, *Crowding in private finance* and *Investment in skills* achieved the lowest average score, indicating that these areas may require significantly more attention in the years ahead to ensure the long-term success of the Renovation Wave strategy. *Support wider buildings sector decarbonisation*, *Encourage digitalisation in buildings and construction sectors* and *Technical assistance* also achieved relatively low results.

This indicates a risk that opportunities to build and integrate the energy renovation ecosystem with wider priorities using NRRP funding may be missed due to a narrow focus on direct financing of renovations. While this emphasis is right in the interests of economic recovery in the nearer-term, Member States need to invest more in enabling conditions for sustained growth of renovation markets – investments which can be, compared to the capital costs of renovation, relatively small. This includes investment in financing instruments, skills development, integrating energy efficiency and heat decarbonisation, encouraging digitalisation within the sector, and addressing behavioural and technical barriers to renovation through technical support and advisory services. It is these supporting mechanisms which will enable supply chains to increase the rate and depth of renovations for the longer term.

NINE RECOMMENDATIONS TO MEMBER STATES TO MAKE THE RECOVERY PLANS TRANSFORMATIVE

KEY RECOMMENDATIONS FOR IMPROVEMENT

The NRRPs allocate significant investment to energy renovation with the potential to accelerate the transition of the building stock in the EU. However, Member States have only respected bare minimum efforts (especially on depth of renovation), which jeopardises the possibilities for the building sector to meaningfully contribute to achieving climate neutrality goals

The plans were developed at speed in response to immediate economic pressures and the implementation period now offers an ideal opportunity to act to enhance the rapid delivery of programmes and measures to ensure that the full potential of the NRRPs is realised. Doing so holds the potential to put the EU on track to meet its 2050 climate-neutral objectives.

The Recommendations below relate to suggested improvements that Member States can introduce across the five assessment criteria for all 18 NRRPs analysed. Individual recommendations tailored to each Member State can also be found in each of the NRRP Country Profiles that are included in this Study.

Criteria	Opportunity for improvement
Clarity and depth of ambition	1. Prioritise deep renovations and scalability in the design and implementation of schemes 2. Accompany each funded building project with a Renovation Roadmap to 2050
Financial perspective and landscape	3. Improve scheme longevity and impact by crowding in private finance
Multiple benefits and integration	4. Integrate renovation with heat decarbonisation and apply Energy Efficiency First Principle consistently 5. Embed renovation alongside wider political and socio-economic priorities
Supply chain and project support	6.Strengthen Technical Assistance at regional and local levels 7. Fund further One-Stop-Shops and information centres to support customers, exchange best practice 8. Upskill the workforce through reliable accreditation systems
Implementation framework	9. Engage in better monitoring and aggregation of data to measure impact

CLARITY AND DEPTH OF AMBITION

1. Prioritise deep renovations and scalability in the design and implementation of schemes

The Commission guidance on the Recovery and Resilience Facility stipulates that funded renovations must achieve at least 30% primary energy savings for them to qualify as contributing to the 37% threshold towards the green transition. As a result, many renovation schemes in the NRRPs aim to achieve only 30% primary energy savings reduction, which is enough to be eligible for funding.

Unfortunately, this will not be sufficient to reach the EU's 2050 climate goals. Only holistic deep renovations that reduce energy demand by at least 60% (for the worst-performing buildings) or result in an energy demand of 80kWh/m^2/year (for buildings of medium level of consumption) will avoid lock-in effects. According to JRC estimates[8], conducting deeper renovation, increasing its rate linearly to 3% within 10 years and sustaining it thereafter can lead to the renovation of nearly 80% of existing homes, resulting in 1,517 TWh reduction of primary energy consumption (40% of current buildings energy demand). The Buildings Performance Institute Europe (BPIE) analysis also finds that a 3% annual deep renovation rate would be needed[9]to achieve climate-neutrality by mid-century.

8 JRC, 2020, Building energy renovation for decarbonisation and Covid-19 recovery study
9 BPIE, 2021, The make-or-break decade: making EPBD fit for 2030 study

NRRP allocations to public buildings have an even more important role to play. Since they are frequently visited by the public, public buildings contribute to raising awareness and must lead the way by example in achieving a high level of energy performance. The diversity of public buildings also means that they are a microcosm of what will need to happen in other building segments, and as such play a key role in preparing the market for wider uptake. NRRP allocations to public buildings must also be in line with the ambitious energy renovations for public buildings foreseen in the EED currently under revision. Investing public money into lower energy savings would only serve to undermine the coherence of delivering on the EU's longer-term climate goals.

Raising energy saving targets and encouraging deeper renovation through scheme design is crucial. Early consideration of opportunities to scale up NRRP schemes with complementary finance and investment, especially from the private sector, will significantly increase the impact of NRRP reforms and investments and enhance the EU's prospects for meeting its 2050 climate goals.

Best practice examples from NRRPs:

- In **Belgium**, social housing renovation in the Brussels-Capital Region is expected to deliver at least a 53% reduction in energy consumption.
- In **Croatia**, multi-family homes and public building renovations are expected to deliver at least a 50% reduction in heat demand and heating energy consumption (30% primary energy savings); grants will cover up to 80% of the costs for deep renovation, compared to 60% otherwise.
- In **Ireland**, public office accommodation renovations are expected to achieve at least a 50% increase in energy efficiency (an energy rating of at least 'B').
- **France**'s *MaPrimeRenov* scheme is open to a range of buildings energy performance upgrades, with a sliding scale offering additional financial support where energy savings of at least 55% are achieved.

2. Accompany each funded building project with a Building Renovation Passport

Building Renovation Passports have several parts that contain information on a building and its overall performance. One key element is a renovation roadmap that sets out a long-term renovation plan for a relevant property, typically covering 10-20 years, accompanied with renovation logbooks that store information about measures already undertaken[10]. The roadmaps can be a helpful tool to enable the implementation of staged deep renovations by providing a pathway for necessary steps for building owners to take over time and can facilitate the crowding in of private finance and investment. They have been trialled in several countries (Germany, France, Belgium (Flanders), Denmark)[11], but are still not well established. The Renovation Wave strategy also indicates that the Commission intends to introduce Digital Building Logbooks to integrate Building Renovation Passports, Energy Performance Certificates (EPC) and other data[12]. NRRPs could be used to support the development of such tools in Member States or support their wider roll out. However, only one Member State among those studied – Romania - has taken this opportunity. Providing every building where works are undertaken with RRF funding with a Building Renovation Passport and Renovation Roadmap would support the establishment of best practices and lay foundations for rapid scaling up of investable deep renovation projects.

Individual building renovation roadmaps can provide valuable advice to project owners in case of staged deep renovation to avoid renovation 'lock-ins' and dead-ends. They can also help create the necessary project development and monitoring skills across the renovation labour force, indirectly supporting new market and business model creation.

Best practice example from NRRPs:

- The **Romanian NRRP** includes specific proposals to drive forward the digitalisation of the buildings sector, including funding for a National Digital Building Register and digital building renovation passports and logbooks.

10 iBRoad for BPIE, 2018, The Concept of the Individual Building Renovation Roadmap. An in-depth case study of four frontrunner projects here
11 Ibid.
12 EC, 2020, Renovation Wave Strategy here

FINANCIAL PERSPECTIVE AND LANDSCAPE

3. Improve scheme longevity and impact by crowding in private finance

The impact of reforms and investments to boost the rate and depth of energy renovation through the NRRPs must not fade when RRF funding ends in 2026. Many renovation schemes in the NRRPs rely entirely on RRF funding, with no clear provisions to progressively attract private finance and investment or combine with other EU and national funding sources. Early consideration of the potential contribution of private finance can help make public funds go further, by crowding in private investment and reducing market distortions or 'boom and bust' cycles in the rate of delivery.

That said, it is important to recognise the considerable differences in the landscape and 'readiness' of private finance and investment, particularly for renovation, across Member States. In addition – given the scale of the renovation challenge and the €275bn per year investment gap[13] the EU currently faces to 2030 – the role of private finance is not about reducing the need for public funding, but about scaling up investment overall.

As NRRPs, perhaps understandably, have not prioritised this from the outset, it will be critical in the period to 2026 to leverage NRRP funds and renovation activity to draw in private finance and investment. A step-change in sustainability of financing is needed, and the focus must be on developing the necessary reforms and infrastructure to leverage private capital, develop new business models and support innovative financing tools. Revisions to the EPBD, support available from the European Investment Bank and in some cases national development banks, and other EU and national public funds can also be harnessed to engage and crowd in private finance.

Boosting investor confidence also needs to be addressed and will be just as important to leverage the impact of complementary NRRP activities. Technical assistance, skills and training, buildings energy databases and digital tools will be crucial in that respect. Concerted additional efforts to grow the contribution and flow of private finance into renovation are urgently needed now to ensure renovation markets can be sustained and grown beyond the end of NRRP support. On top of the role of existing programmes, for example the role of EBRD Green Economy Financing Facilities supporting renovation in certain Member States, additional action can include:

- The introduction of mortgage portfolio standards to harness the power of mortgage lenders – "sleeping giants of the Renovation Wave"[14] – to drive enhanced energy performance of the buildings stock.
- Concerted financial innovation at Member State level – as coordinated for example by the Green Finance Institute's Coalition for the Energy Efficiency of Buildings (CEEB) – to accelerate the development of new financial products and services for renovation, by bringing together financial institutions, the supply chain, civil society, and government. The CEEB is comprised of over 360 members that have co-developed innovative tools and products to accelerate the decarbonisation of the built environment in the UK, including lender principles for green home finance products, local climate bonds, and a protocol for metered energy savings, with numerous others in development[15].

Best practice examples from NRRPs:

- **Italy** extended its SuperEcobonus tax credit for renovation, which was set to expire in 2021. While the credit covers up to 110% of renovation costs, building owners still need to pay for renovation up front – banks and energy service companies are therefore eligible for the tax credit if they provide the capital for renovation. This has the potential to help mainstream private investment for energy renovation projects.
- **Austria** is granting a 14% investment premium to companies for investments in green transition priorities, including insulation, heating system optimisation and other energy saving measures.
- **Romania** is creating a loan portfolio guarantee and 'fund of funds' for energy renovation as a step towards crowding in private capital.
- **Croatia**'s Ministry of Physical Planning, Construction and State Assets in cooperation with the Croatian Government Real Estate Agency is piloting a project to utilise systematic energy management to realise water and energy savings and test the implementation of a new financing model built around it. National scale-up will be considered.
- **Germany** plans to combine the NRRP allocations with federal funding for energy-efficient buildings. Its NRRP scheme is expected to achieve on average a minimum of 45% of primary energy demand savings and potentially significantly more (70% savings) through bonuses for better classes of energy efficiency. Germany is planning to prolong the measure beyond 2026 with funding from its federal budget.

13 EC, 2020, Renovation Wave Strategy here
14 Sweatman, P. (2021) Are Mortgage Lenders The Sleeping Giants Of The Renovation Wave?
15 See Green Finance Institute (2021) Coalition for the Energy Efficiency of Buildings

MULTIPLE BENEFITS AND INTEGRATION

4. Integrate renovation with heat decarbonisation and apply Energy Efficiency First principle consistently

In many cases it is not clear how energy efficiency will be linked to heat decarbonisation investments programmed in NRRPs. There is very little clear evidence of the Energy Efficiency First Principle being applied to heating support measures. In a few Member States, support for heating measures risks being detrimental – in the case of Hungary it is unclear whether support for new heating systems will mitigate energy poverty risks with energy efficiency improvements; in the case of Czechia, support is being offered for new gas boilers, risking significant carbon lock-in.

The implementation of NRRPs should serve as an opportunity to drive forward the significant challenge of decarbonising heat in buildings alongside energy efficiency investments. This needs to be reflected in policy and legislative frameworks wherever possible, both through Fit for 55 and European Green Deal legislation and at Member State level.

Best practice examples from NRRPs:

- **Ireland** is introducing a new residential retrofit loan scheme, which can be well positioned to support existing heat decarbonisation measures if they are integrated in practice. An example includes the existing Air Source Heat Pump System Grants, which require properties to be "heat pump ready" (i.e. have low heat loss) to be eligible for support.

5. Embed renovation alongside wider political and socio-economic priorities like energy poverty

Addressing other priorities at the same time as energy renovation can be critical, politically and practically, for sustaining and scaling up renovation plans and activities. Alongside climate and energy cost savings, Member States' have identified different socio-economic priorities and motivations for funding renovation works which, if promoted well by national governments, can significantly help to increase public acceptability around the need for more ambitious renovation policies.

The key themes running through most plans are addressing climate change, alleviating fuel poverty, and improving indoor air and environmental quality. In some cases more specific priorities are pursued, such as supporting climate adaptation and earthquake resilience (Croatia, France), accessibility for elderly and disabled households (Spain), improving the quality of health care facilities (Bulgaria, Hungary); improving access to the labour-market for women, better childcare facilities (Czechia); creating new low-carbon or economic opportunities for neighbourhoods (Germany, Spain); boosting access to university education to wider sections of society, improving youth opportunities and others (Italy).

Acknowledging wider socio-economic impacts of renovation policies in society and ensuring that energy efficient renovations are mainstreamed horizontally across relevant ministries' remits is critical to ensure all government actions are moving in the same climate-neutral direction.

Best practice examples from NRRPs:

- **Spain** has a specific programme targeting renovations of buildings in municipalities and urban areas with fewer than 5,000 inhabitants to support regeneration and to address demographic challenges. It builds strong links between renovation and unlocking wider benefits including improved accessibility, conservation, improvement of security, sustainability, and habitability.
- **Czechia's** NRRP boosts an existing residential renovation programme which has been relatively successful in supporting adaptation (e.g. green roofs, shading) and improvements of indoor environments (e.g. in schools). There is a bonus for environmentally certified materials or savings achieved through Energy Performance Contracts or a Performance Design & Build method.

SUPPLY CHAIN AND PROJECT SUPPORT

6. Support for Technical Assistance at regional and local level

Capacity building implies more staff, deeper institutional and individual knowledge and know-how, and therefore more possibilities to deliver on the envisaged reforms and investments in the NRRPs. More resources to help regional, local and other delivery authorities roll out renovation programmes, prepare projects, monitor and measure performance, administer funding and lower the barriers to investment will be key to unlocking the potential of the buildings-related reforms included in the NRRPs. Enhanced capacity and technical assistance will be fundamental enabling conditions for the successful implementation of EU legislation, especially around new Minimum Energy Performance Standards (MEPS) expected for existing buildings in the EPBD revision.

Best practice examples from NRRPs:

- **Czechia's** NRRP allocates €20m to advisory and project preparation for energy efficiency schemes in the residential sector, and €98m to project preparation in the public sector.
- **Croatia** included funding for at least 80 public employees to be trained to provide high-quality services combining energy efficiency and post-earthquake reconstruction, half of which in public institutions, and the other half in One-Stop-Shops.

7. Fund further One-Stop-Shops and information centres to support customers, exchange best practice

Fragmentation of supply chains for different energy renovation improvements, complex projects and often a diversity of funding and finance options can make it challenging for building owners and users to get started. Comprehensive advisory services for citizens, businesses and installers are necessary to drive take-up of renovation measures – often regardless of how attractive financial incentives might be. This is especially true for deeper renovations and whole-building upgrades that encompass multiple improvements, which need to bring together different trades and are likely to require detailed project management to deliver successfully. One-stop-shops have long been advocated by the European Commission as part of the solution to these challenges, including through the Energy Performance of Buildings Directive[16].

Few Member States have used NRRPs to establish One-Stop-Shops or boost existing provisions. In addition, there is insufficient information in the NRRPs to understand the geographical reach and scope of services these One-Stop-Shops might deliver, creating a strong case for the European Commission to map and encourage exchange of best practice.

Best practice examples from NRRPs:

- **Belgium** will upgrade existing regional advice services to One-Stop-Shops that promote and support home upgrade programmes.
- **Croatia** has funding programmes for the establishment of physical and online One-Stop Shop services for energy and seismic renovation at regional level, provided via regional energy agencies.
- **Italy** is launching a national portal for the energy efficiency of buildings which includes setting up additional One-Stop Shops. This covers specific initiatives to close information gaps and provide training on available tax incentives for renovation to citizens.
- **Slovakia** has programmed €21m to support the creation of administrative centres including regional One-Stop-Shops.

8. Upskill the workforce through reliable accreditation systems

Member States need to upskill their existing workforce along the renovation value chain to practically deliver the Renovation Wave on the ground. Very few Member States have set key performance indicators for training programmes in their NRRPs or have considered specific support needed for SMEs who represent 83% of the construction sector workforce. Likewise, there are very few established, robust accreditation systems for qualified professionals – an essential step to improving the quality of renovations as well as the reliability of Energy Performance Certificates, whose framework is expected to be improved through the EPBD revision.

Best practice examples from NRRPs:

- **Croatia**'s NRRP will develop a framework to improve the skills for green jobs in the context of energy renovation and post-earthquake reconstruction, based on a review of existing programmes and through the preparation and adaptation of educational programmes.
- **Ireland** will develop Green Skills modules as part of its Recovery Skills Response Programme. This will prioritise training schemes in the construction sector to address shortages of workers and critical skills and include Nearly Zero Energy Building and retrofitting modules.

16 JRC, 2018, One Stop Shops for energy renovation in buildings study

IMPLEMENTATION FRAMEWORK

9. Better monitoring and aggregation of data to measure impact

It is essential that NRRP-funded projects are monitored appropriately and deliver holistic renovation measures that achieve targeted energy savings. While all Member States have set energy saving or energy efficiency targets for their NRRP schemes, few have indicated how they plan to measure and monitor performance. Increased data collection will help to support better monitoring of renovation schemes, course-correct or improve the design of future schemes and facilitate engagement with the financial sector to crowd in private investment.

Some Member States have more established systems to monitor energy savings than others, but there are consistent issues with data availability and quality, including with respect to Energy Performance Certificates (EPCs)[17]. Post-renovation EPCs are consistently referred to in the NRRPs as being required to assure that the energy savings aimed for are achieved, but the NRRPs do not contain plans to establish databases of the information gathered via EPCs. Furthermore, with rare exceptions, EPCs are not based on actual energy consumption – crucial for investor confidence and digitalisation – and NRRPs have not embarked on initiatives to move EPCs in this direction.

The Commission has highlighted the need for improved data collection through the strengthening of the EPC framework in the forthcoming revision of the EPBD. Better data collection on buildings is also an integral part of the proposal to introduce MEPS in the EPBD, as Member State authorities will need to be able to verify how and if the building-segment targets are being met.

Best practice examples from NRRPs:

- **None identified**, although there are a few examples which can be extended to serve as a source of high-quality reliable data if accompanied with processes to ensure that data is accurately captured. **Czechia**, **Romania,** and **Italy** all include some plans to create centralised databases and registers, e.g., a National Digital Building Register in Romania, which can lay an important foundation for future development.

17 ENERFUND, 2018, EPC implementation: status quo analysis

NEXT STEPS TO 2026

With the Commission having endorsed most NRRPs and most of the Council Implementing Decisions approved, a significant number of Member States have gained access (by October 2021) to the 13% pre-financing available to kickstart the recovery. Further disbursements will be granted based on the satisfactory fulfilment of NRRP milestones and targets, as testimony to real progress in the reforms and investments on the ground.

The available information about the milestones and targets pertaining to renovation, as well as the payment schedule foreseen, appear in the Annexes of each of the Country Profiles. Upon completion of the relevant agreed milestones and targets, each Member State will submit to the Commission a duly justified request for payment of the next instalment, at most twice a year.

The Commission, led by the Recovery and Resilience Task Force (RECOVER)[18], will prepare an assessment within two months, ask the opinion of the Economic and Financial Committee[19] and then report its decision to the European Parliament's ECON/BUDG Recovery Scrutiny Group and to the Council. If at least one Member States considers that the relevant milestones and targets have not been satisfactorily fulfilled by another Member State, the matter can be referred to the next European Council.

The Commission will use the RRF Scoreboard[20] to track progress on the implementation of the Recovery and Resilience Facility. The RRF Scoreboard will be updated twice a year, following the biannual reporting by the Member States, and will be publicly available online.

The RRF Scoreboard differentiates between two means of reporting:

1. Common indicators, compiled by Member States in the context of the European Semester, and
2. Other elements (including all the milestones and targets from each NRRP, reflecting the implementation of the reforms and investments promised), compiled by the Commission.

The implementation of the RRF governing the NRRPs is strongly embedded in the European Semester. Monitoring progress on the ground, tracking the schedule of payments and improving the delivery of energy renovation in the NRRPs up to 2026 will therefore be strongly linked with the country-specific recommendations, to be issued on an annual basis.

18 The Recovery and Resilience Task Force (RECOVER) was established on 16 August 2020 within the European Commission's Secretariat-General. RECOVER is responsible for steering the implementation of the Recovery and Resilience Facility and for coordinating the European Semester, in close cooperation with the Commission's Directorate-General for Economic and Financial Affairs. RECOVER reports to Commission President Ursula von der Leyen.

19 Economic and Financial Committee: an advisory body, set up to promote coordination of member states' policies necessary for the functioning of the internal market. Composed of senior officials from national administrations and central banks, the European Central Bank and the Commission. It meets in 2 different configurations i.e. with or without national central banks. It has an elected chair and its secretariat is provided by the Commission.

20 RRF Scoreboard: currently being defined: Recovery and resilience scoreboard – common indicators and detailed elements (europa.eu), will be adopted by December 2021

CONCLUSIONS

With the results of this Study, we observe that Member States are planning, via their NRRPs, to undertake significant energy renovation activity in their territories. Although the overall result of the assessment methodology used indicates that the plans need improvement, the adoption of the 9 recommendations for improvement that the Study sets out would permit the plans to become transformative and help achieve the Renovation Wave objectives.

The implementation on the ground and the reinforcing effect of the forthcoming revisions of the relevant EU legislation (especially the EPBD and the EED) must be well managed. Monitoring the implementation in the Member States will be informative on the chances that the buildings sector can make its deserved contribution to the achievement of the Fit-for-55 and Climate neutral objectives of the EU.

The national partners of the Renovate Europe Campaign will be vigilant in monitoring the efforts of the Member States and will be involved in reacting to the successive assessments and recommendations that the European Commission will issue on the NRRPs over the period to 2026. They will also assess, as far as possible, if the use of the funds requested by the Member States will ensure that the NRRPs are the launch pad for the continuous and ambitious implementation of long-term renovation strategies, especially after 2026.

In short, the NRRPs studied are a good start but they are not transformative enough to ensure that the energy renovation of buildings makes its full contribution to the improvement of the quality of life in the EU and to the achievement of the climate goals of the EU.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

COUNTRY:

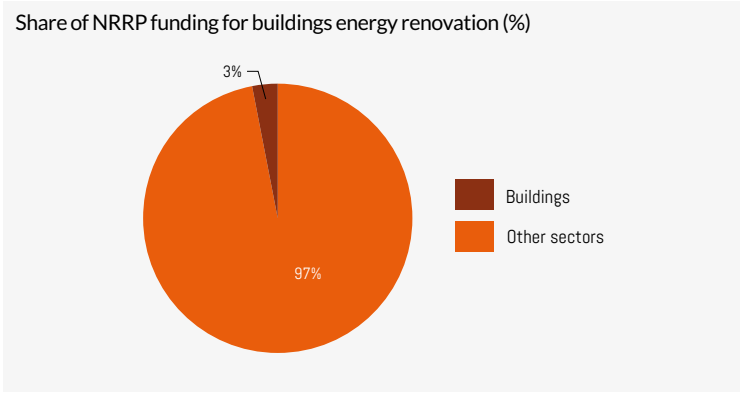
AUSTRIA

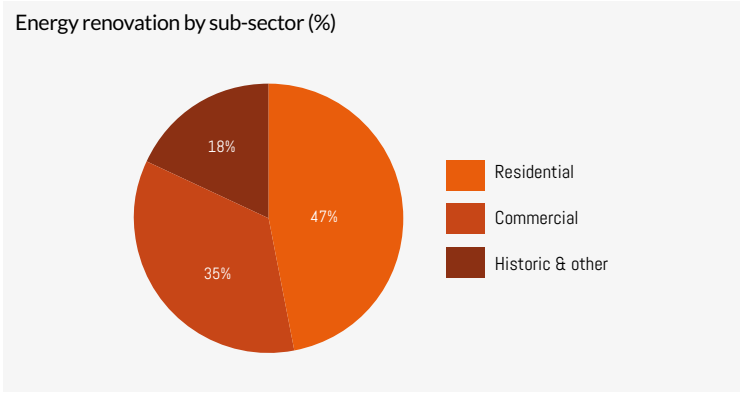
OVERVIEW:

Austria's Country Profile is based on information provided by Renovate Europe's Austrian National Partner: 17&4 Organisationsberatung and other sources as indicated (see note at bottom). This Country Profile focuses on the buildings elements of Austria's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan allocates limited funding to building renovation . It can benefit from strengthening its targets and delivery through further supply chain and project support, and by better integrating its buildings strategy. Austria's existing renovation funding landscape is complex, with overlapping regional and national-level initiatives, but remains insufficient to reach government goals.

BUILDINGS IN THE CONTEXT OF THE PLAN

Austria's NRRP comprises measures worth €3.5bn from the grant funded element of the Recovery and Resilience Facility. The Plan allocates €209m to the Renovation Wave component, with €50m earmarked to fight energy poverty for low-income households through support for heating modernisation and thermal renovation. For enterprises the Plan includes a 14% investment premium for thermal renovation with a budget of €20m. An investment proposal for climate-friendly town centres also includes the thermal renovation of commercial and communal buildings €17.5m, and measures to green facades €5m. Two projects are included to demonstrate holistic renovation of historic buildings, with a budget of €13.9m. Across those measures, thermal renovation measures amount to around €106m (~3%). Funds also allocated for the exchange of individual oil and gas boilers in the residential sector (€159m), and grid coupled photovoltaics and electricity storage for businesses (€153m). If included they would raise the share of funding to buildings to ~9%. Across the plan other measures support renewable energy, low-carbon mobility and energy system investments which may impact buildings.





National Challenges

A study for the EC[1] based on data until 2016 estimates that only 1.7% of renovations in the residential sector in Austria were medium depth and 0.2% deep renovations (based on floor area). Energy renovation in non-residential buildings is only 0.6% medium, and 0.2% deep. The rates of medium and deep renovation have decreased over the last few years. A lack of qualified energy and construction sector professionals is a key barrier to scale up renovation, alongside the high costs of works. There are no links between public funding for renewable heating systems and thermal renovation in the NRRP, which presents a missed opportunity to improve energy efficiency[2] .

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)
[2] https://www.umweltfoerderung.at/privatpersonen/raus-aus-oel-efh-f-private-20212022/navigator/gebaeude-3/raus-aus-oel-fuer-private-20212022-ein-und-zweifamilienhaus.html

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP mostly contributes to existing plans and only lays out general objectives such as climate neutrality by 2040. Austria's Plan does not make strong links to the Long Term Renovation Strategy (LTRS), which sets clearer goals: an 80% cut in buildings emissions by 2025. For the residential sector, NRRP funding is targeted at meeting regulatory requirements linked to the prohibition of oil boilers and combating energy poverty. Energy poverty investment may include thermal renovation and heating system modernisation and is expected to support 2,250 family homes by 2025. To be eligible for funding, projects will need to realise at least a 30% average reduction in primary energy savings. Nevertheless, according to the Plan, projects are expected to deliver an average of 67% reduction in energy consumption per home. For non-residential buildings, the target is to support 1,000 enterprises with thermal renovation by Q1 2025, and 250 companies and municipalities in town centres by Q2 2026. Measures will require a minimum depth of renovation, but the level is not specified in the Plan. Realised energy savings will be assessed using an updated Energiepass (energy performance certificate (EPC)), enabled through the national EPC database.

FINANCIAL LANDSCAPE AND PERSPECTIVE

According to Austria's LTRS, the estimated investment needed to maintain the current renovation rate of 1.5% is €5.3bn per year (and Austria invested this much in renovation in 2017). This would rise to over €10bn for a renovation rate of 3%. The NRRP provides a limited amount of funding for energy efficiency measures, although other investment programmes exist at federal and state levels (e.g. a Residential Buildings Subsidy). The NRRP's residential schemes are targeted at low-income households, covering up to 80% of the costs of thermal renovation and heating system replacements. The enterprise measures intend to support private investment.

MULTIPLE BENEFITS AND INTEGRATION

The Plan focuses on low-income households and energy poverty with both the thermal renovation and heat exchange programmes targeted at low-income households. Other measures also support building sector decarbonisation (e.g. measures to support photovoltaic and energy storage in enterprises). The NRRP does not include any additional measures in the areas of buildings digitalisation, cooling or linking renovation with wider changes to the built environment. The Plan adds funding to existing programmes and therefore needs to be understood in combination with those to examine wider benefits. For instance, Austria's existing Climate and Energy Fund already supports over 100 programmes including some focusing on smart buildings.

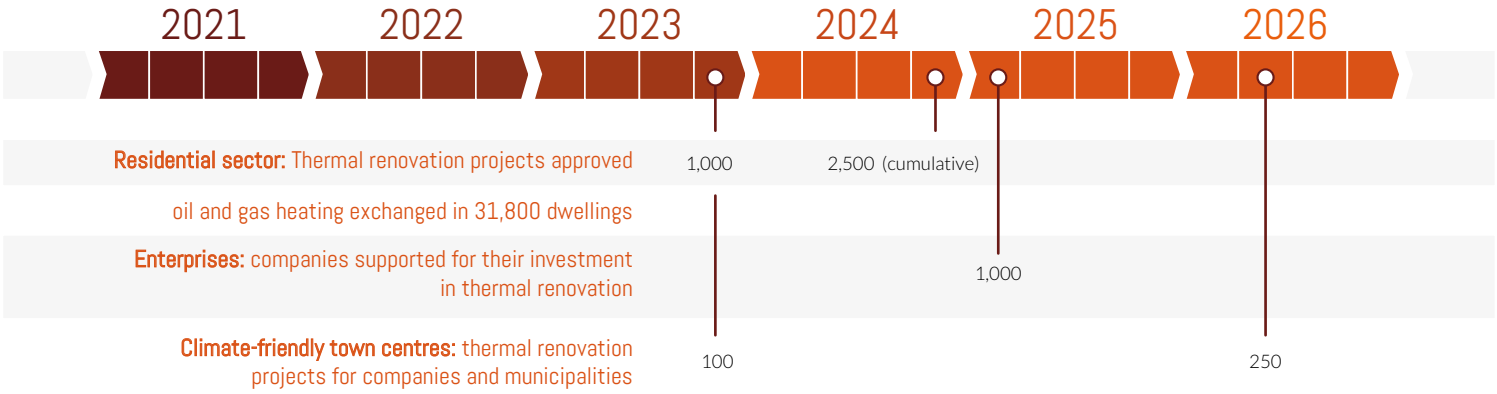
SUPPLY CHAIN AND PROJECT SUPPORT

Austria already has multiple one-stop-shops and platforms, support for which is not part of the NRRP. The Plan allocates €277m to upskilling and further professional education, but not in the buildings sector. This could be a missed opportunity as a lack of suitably qualified professionals is a barrier to scaling up renovation in Austria. Part of the funding in the residential sector is allocated to awareness raising and other services in cooperation with social NGOs.

IMPLEMENTATION FRAMEWORK

The existing administrative capacities in Austria are sufficient for effective compliance with the requirements of Regulation on the Recovery and Resilience Facility. Due to the relatively low allocation of RRF funds compared to other countries, and the fact that the expenditure under the Plan accounts for just 0.2% of annual public spending, Austria regards it as expedient for this time-limited instrument to fall back on existing structures and administrative capacities for managing EU funds. Ministries can, for example, make provisions for the extended control procedures through reallocations. Interim milestones are in place for the residential and town center schemes in the Plan.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

The NRRP represents a small share of the overall public investment in renovation in Austria. As a result, it aims to deliver a small number of projects. Further steps could be taken to support Renovation Wave goals. They include:

- Forging stronger links between measures to support oil boiler removal and energy efficiency improvements by encouraging joint renovations.
- Exploring how to integrate digitalisation of renovation, adaptation, and other considerations like the use of sustainable construction materials.
- Investing in skills and training for the construction workforce to create interest in apprenticeships and ensure it is ready to deliver deep renovation at scale.

NOTE

The survey was complemented with a targeted desk-based review of Austria's Long-term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the same draft Plan.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Austrian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 1: SUSTAINABLE RECOVERY **SUBCOMPONENT 1.A Renovation Wave** This subcomponent of the Austrian recovery and resilience plan addresses the following challenges: climate change, energy efficiency, use of renewable energy, resource efficiency, air pollution, energy poverty, social inequality, job creation. The objective of the subcomponent is to (i) promote the green transition by supporting the replacement of climate-damaging oil and gas heating systems with renewable technology, and (ii) strengthen social resilience by supporting complex thermal renovation of dwellings to reduce the energy costs of low-income households. In the wake of the COVID-19 crisis, it also aims to contribute to employment recovery, owing to multiplier effects of renovation works on job creation.				
Reform: 1.A.1 Renewable Heating Law The objective of the reform is to create the framework conditions for replacing outdated heating systems. Building on an existing reform that banned heaters using fossil fuels in newly constructed buildings, the Renewable Heating Law shall regulate the phase-out of outdated heating systems in existing buildings from 2025 onwards and encourage their replacement by renewable energy or district heating. Additionally, the reform shall create a common platform, in cooperation with the Länder and social organisations, to coordinate flanking measures against energy poverty, including funding and consultancy services for low-income households.				
Entry into force of Renewable Heating Law		Q1 2022	2	Entry into force of the Renewable Heating Law to regulate the phase-out of heaters using liquid or solid fossil fuels in existing buildings.
Renewable Heating Law - Training for energy consultants		Q4 2022	2	In agreement with the Länder and the social NGOs involved in the project, training shall be offered to energy consultants to advise low-income and energy-poor households.
Investment: 1.A.2 Exchange of oil and gas heating systems The objective of the investment is to increase the share of heating systems based on renewable energy in residential buildings, and thus reduce heating-related energy consumption, greenhouse gas emissions and air pollution. The investment consists of a support scheme for private individuals to replace fossil-fuel heating system with biomass-based heaters, heat pumps or connectors to district heating.				
Exchange of oil and gas heating systems - biomass	53	Q4 2021 Q4 2023 Q2 2026	1/3/6	At least 6.360 projects of replacement of heating systems have been implemented and audited by Q4 2021.
Exchange of oil and gas heating systems - district heating	53			At least 15.900 projects (baseline 6.360) of replacement of heating systems have been implemented and audited by Q4 2023.
Exchange of oil and gas heating systems - other renewable energy	53			At least 31.800 projects (baseline 15.900) of replacement of heating systems have been implemented and audited.
Investment: 1.A.3 Combating energy poverty The objective of the investment is to contribute to a reduction in energy consumption in buildings, while supporting a just transition. The investment shall support thermal renovation of dwellings of low-income households prone to energy poverty, and thus reduce their energy consumption and costs in a sustainable manner. The measure targets low-income households living in older buildings which cannot afford an own contribution to existing national and regional schemes supporting energy efficiency measures. The investment consists of an integrated support scheme that shall provide tailored support and funding for renovation of family houses, comprising thermal insulation of walls and roof, replacement of windows and heaters as well as planning support. Part of the investment shall be dedicated to consultancy services and awareness raising, in cooperation with social NGOs, building on the reform included in this subcomponent.				
Combating energy poverty Determination of funding priorities		Q1 2022	2	The Climate Ministry (BMK) has adopted and published the funding conditions and priorities in the funding guidelines of the support scheme for thermal renovation in dwellings of low-income households. The funding guidelines shall ensure at least a 30% average reduction in primary energy consumption of the buildings to be renovated.
Combating energy poverty Thermal renovation	50	Q4 2023/ Q4 2025	3/5	At least 1.000 thermal renovation projects approved by BMK under the support scheme by Q2 2023, and at least 2.250 thermal renovation projects by Q4 2025.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 2: DIGITAL RECOVERY **SUBCOMPONENT 2.D Digital and ecological transformation of enterprises** This subcomponent of the Austrian recovery and resilience plan addresses the challenges related to fostering the digital and green transition of companies. The subcomponent aims to accelerate the digitalisation and ecological transformation of Austrian companies, notably by encouraging companies' investment in these priority areas.				
Investment: 2.D.3 Green investments in enterprises The investment aims to encourage companies' investments into ecological transformation and to direct them towards forward-looking priority areas. The investment consists of a 14% investment premium granted to companies for investments in the priority areas of green transition, such as thermal renovations of buildings, heating optimisation and other energy saving measures, production of renewable energy, photovoltaic and electricity storage systems, zero-emission vehicles, charging stations. Support shall be granted for new tangible and intangible investments in depreciable capital assets of companies that are permanently established in Austria. The Investment Premium Act and the respective funding guidelines exclude climate-damaging investments such as into equipment or installations that directly use fossil fuels, while also stipulating that payments shall be conditional on submitting evidence that excludes negative impacts on environmental and climate objectives.				
		Q2 2021	1	Entry into force of the amendment to the Investment Premium Act providing for a budget increase to reflect the availability of the RRP funds for support of green investments by companies.
Green investments in enterprises - Thermal renovation of buildings	20	Q1 2025	5	Support granted to at least 1.000 companies for their investments in thermal renovation Google translate from NRRP: Both individual measures and comprehensive renovations are eligible for funding. The improvement of the thermal insulation of operationally used is promoted buildings that are more than 20 years old. In the case of the individual measures, the investments are with the eligible U-values are defined. Invoices are included in the course of billing and before payment breakdown of the service content and information on UW values (windows, doors) or provide insulation thicknesses (roof, top floor ceiling). Eligible investments are: • Insulation of the external walls • Insulation of the top floor or roof • Insulation of the lowest storey ceiling or the basement floor • Refurbishment or replacement of windows and external doors • Ventilation units with heat recovery (by submitting the invoice before Withdrawal ensures that this investment is only eligible for promotion once can be submitted) • External shading systems to reduce the cooling requirement of the Building • ventilated facade systems • ventilated facade formwork • Facade greening • Extensive green roofs

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Green investments in enterprises - energy saving in companies	32.5	Q1 2025	5	Support granted to at least 1.300 companies for their investments in energy savings. Google Translate from NRRP: Investments to save energy in companies, heating optimization, efficiency increases in industrial processes and systems, but also in lighting optimization. In the funding guidelines, those eligible for funding are listed for the funding recipient Investments listed: • heat exchanger • Heat pumps for the development of waste heat (when using heat pumps the refrigerant used may have a GWP of 2,000 to exploit waste heat (determined according to the 5th IPCC assessment report) do not exceed) • Buffer storage Austrian Development and Resilience Plan 2020-2026, April 2021 273 of 605 • Pump • Control electronics (MSR) • Central ventilation units with heat exchangers (submitting the invoice before payment ensures that this investment can only be submitted once for funding) • Energy saving measures for street lighting • Disposal costs for decommissioned boilers and tank systems • LED lights, necessary cables and lines, pipe and support systems, switching and plug-in devices as well as the control. • Investments to increase efficiency in industrial processes, systems and Electrical engineering that leads to energy or greenhouse gas savings of at least 10% compared to the existing system.
COMPONENT 4: JUST RECOVERY **SUBCOMPONENT 4.B Resilient municipalities** This subcomponent of the Austrian recovery and resilience plan addresses the following challenges: (i) reactivation of town centres, particularly in rural areas, (ii) investment supporting the green transition, (iii) the needs-based provision and expansion of professional care services.				
4.B.3 Investment in climate-friendly town centres The objective of the investment is to raise the attractiveness of town centres, notably in rural areas, by supporting the often costly investment in necessary measures to make buildings fit for the green transition, thereby preventing the use of new land outside the town centres and making a positive contribution to reduction of mobility. The investment consists of several elements, which shall help entrepreneurs establish their businesses in town centres and the renovation of public buildings in town centres. The areas of investment included are thermal renovation of commercial and communal buildings in town centres, and measures for greening facades. Additionally connection to high-efficiency district heating as well as recycling of brownfield land shall be funded.				
Funding guidelines		Q3 2021	1	The funding guidelines for the renovation of buildings in town centres have been adopted. Eligible projects shall be: (i) thermal renovation of commercial and communal buildings, (ii) façade-greening projects, (iii) connection of buildings to high-efficiency district heating, and (iv) recycling of brownfield land.
building refurbishment	17.5	Q4 2023/ Q2 2026	3	At least 100 thermal renovation projects of companies and municipalities in town centres are completed by Q4 2023 and at least 250 (baseline 100) by Q2 2026.
connection to high-efficiency district heating	17.5	Q4 2023/ Q2 2026	3	At least 1.150 projects for the connection to high-efficiency district heating are completed by Q4 2023 and at least 2.490 (baseline 1.150) by Q2 2026.
green façades projects	5	Q4 2023/ Q2 2026	3	At least 60 roof and façade greening projects are completed by Q4 2023 and at least 100 (baseline 60) by Q2 2026.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
SUBCOMPONENT 4.C Arts and Culture The objectives of the subcomponent are to set incentives for an ecologically more sustainable cultural sector				
Reform: 4.C.1 Development of a building culture programme The objective of the reform is to establish a framework for 'Baukultur' which combines high quality architecture and built environment taking into account social, ecological, economic and cultural components. The aim is to raise awareness for building culture and to integrate aspects of the green transition in this area. The reform consists mainly of the 'Fourth Austrian Building Culture Report', which is intended to set the basis for a reform of building culture in Austria for the coming years and outline concrete measures for a building culture programme. The reform shall create better legal, financial and structural framework conditions for high-quality building. The ability to connect to European requirements plays an essential role.				
Fourth Building Culture report		Q3 2021	1	The fourth building culture report has been published. It shall set the agenda for a reform of building culture in Austria for the coming years and outline concrete measures for a building culture programme.
Investment: 4.C.3 Renovation of Volkskundemuseum Wien and Prater Ateliers The objective of the investment is to demonstrate, with selected renovation projects, how they may become models of combining a living building culture with the aim of environmentally conscious monument protection. Furthermore, the implementation of the 'Federal Building Culture Guidelines' should be visibly displayed. The investment consists of the renovation of two historic buildings, where holistic quality criteria as well as up-to-date participation and planning procedures are used, taking into consideration the 'Federal Building Culture Guidelines'. The renovation measures shall contribute to a significant increase of energy efficiency of both buildings.				
Feasibility studies	13.9	Q4 2021	1	Feasibility studies for the two renovation projects have been completed and are available. They shall include a collection of geographic reference data, measurement of the property and buildings, preparation of basic reports taking into account the protection of monuments and energy efficiency, as well as the appointment of the planning advisory board for the building culture support of the renovation projects.
Renovation of Prater Ateliers – energy efficiency measures		Q2 2024	4	The renovation of the Prater Ateliers has been completed and artists may use the building.
Renovation of Volkskundemuseum – energy efficiency measures		Q2 2026	6	The construction project at the Volkskundemuseum has been completed and the museum has reopened to the public, including public access to the research and exhibition contents.
Investment 4.C.5 Investment fund for climate-friendly cultural businesses The objective of the investment is to support cultural institutions, which have often little capacity for investments in a more ecological design of their operational structures. The measure shall increase the possibility for the realisation of such investments and also raise awareness of medium to long-term cost savings if such investments are realised. The investment consists of funding for the following areas: renewable energy sources (such as photovoltaics, heat pumps or biomass); energy saving measures (such as heating optimisation or lighting optimisation); circular economy (such as reduction of raw material consumption); adaptation measures to climate change (such as green facades for cooling).				
Entry into force of the funding guidelines establishing the investment fund		Q4 2021	1	With the entry into force of funding guidelines establishing the investment fund for climate-friendly cultural businesses, the legal basis has been created for the launch of expressions of interest.
First call for expressions of interest		Q2 2022	2	The call for expressions of interest has been published. Potential applicants may access all the necessary documents and information. Applications may be made online.
Contract award of climate-friendly cultural businesses projects	15	Q3 2025	5	The financial volume of the investment fund for climate-friendly cultural businesses has been fully committed to eligible projects in the areas of: renewable energy sources; energy saving measures; circular economy; and adaptation measures to climate change. The funds shall be paid out on a project-by-project basis depending on the project size and schedule.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

RENOVATE BELGIUM

COUNTRY:

BELGIUM

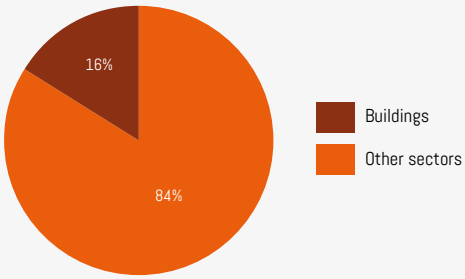
OVERVIEW:

Belgium's Country Profile is based on information provided by Renovate Europe's Belgian National Partner: Renovate Belgium. This Country Profile focuses on the buildings elements in Belgium's National Recovery and Resilience Plan (NPPR) endorsed by the Commission in June 2021.
Belgium's Plan allocates significant funding to energy renovation and is well integrated with existing strategies and plans. It can benefit from further measures to address supply chain constraints and motivate citizens to carry out deep renovations.

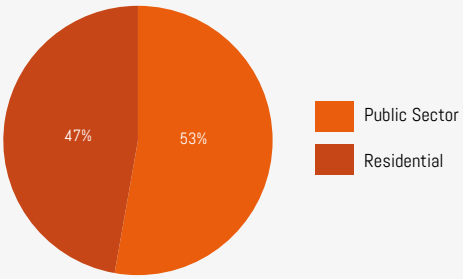
BUILDINGS IN THE CONTEXT OF THE PLAN

Belgium's draft NRRP comprises planned investments of €5.9bn from the Recovery and Resilience facility. It allocates a high share of funds to a renovation component – around €967m (16%). €332m is allocated for improving the renovation subsidy schemes in the Flemish and Brussels-Capital regions, and approximately €120m is earmarked for social housing renovation in the Walloon region. €454m towards the renovation in the public sector, which encompasses €95m for schools, €114m for universities, sports, and cultural facilities, and €246m for other public buildings. A further €61m is included for early childcare infrastructure combining new buildings as well as renovation. Renovation-related measures are also included in other parts of the plan – e.g., renovation of and equipment for training facilities to support skills acquisition for the green transition.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A study for the EC[1] based on data from 2012-2016 estimates that only 1% of residential sector renovations were medium depth and 0.2% were deep renovations based on floor area. For non-residential buildings, the shares were 6% medium, and 1% deep. According to Renovate Belgium, increasing renovation rates remains a significant challenge, both among households with sufficient financial resources and those without. Alongside slow project permitting processes, a lack of sufficiently skilled workers is one of the key barriers to scaling up renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP refers to targets set in Belgium's Long-Term Renovation Strategies (LTRS) and to the National Energy & Climate Plan (NECP) target for the buildings sector of an average reduction of 0.085 MtCO2e per year to 2030. The NRRP components are expected to contribute to this objective through the renovation of 1,300,000m² of public buildings and 240,000 homes, including social housing. Their estimated impact on emissions is not quantified. Projects funded by the Plan are expected to support holistic measures, while the delivered depth of renovation will be measured via updated energy performance certificates. According to European Commission's assessment, on average around a third of the expenditure will target medium to deep energy renovation. The NRRP is not clear about the renovation depth required in the residential sector (except from social housing). For public buildings at least a 30% reduction in primary energy demand (medium depth renovation) is required in most cases. Social housing renovation in the Brussels-Capital Region is expected to deliver at least a 53% reduction in energy consumption.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Belgium has three Long Term Renovation Strategies, for Brussels, Flanders, and Wallonia. The investment need in Flanders and Wallonia is estimated to be around €320bn in total until 2050, with Brussels expected to add additional tens of billions of euro, although a precise estimate is not provided. The NRRP investments are expected to complement other sources of European funding, including operational programmes from Structural funds which are still under development. The Plan incorporates the use of loans and other financial instruments and utilises a mix of grant- and loan-funding for its schemes. The NRRP's renovation subsidy reforms aim to foster investments through simplification and bundling of schemes (Flanders), and higher premiums for lower income households (Brussels). Subsidy schemes assume some level of individual financial contribution. In 2021 and 2022, a reduced (Federal) VAT rate of 6% will apply for a period of 5 years to the demolition and reconstruction of dwellings that are the sole and exclusive property of the client/buyer and whose floor area does not exceed 200m².

MULTIPLE BENEFITS AND INTEGRATION

Energy poverty is not explicitly addressed in the Plan, although renovation of social housing may have positive impact within that sub-sector. For commercial buildings, the objective is to achieve carbon neutrality for **heating**, **cooling**, and lighting, subject to the Energy Efficiency First principle. The Plan does not address the decarbonisation of heating and cooling in the residential or public sectors, focusing instead on support for emerging technologies in industry, including hydrogen production. Unlike for other sectors in the Plan including mobility and water infrastructure, **digitalisation** measures in the buildings sector – such as smart buildings, automation and control systems, and building passports – are largely **omitted**. The exception is a proposed reform to the Flanders' renovation subsidy programme which will incorporate support for smart controls for heat pumps and other domestic technologies. Energy renovation hasn't been linked to other priorities such as tackling air pollution, adaptation, urban regeneration, mobility, circular economy, and the use of sustainable materials.

SUPPLY CHAIN AND PROJECT SUPPORT

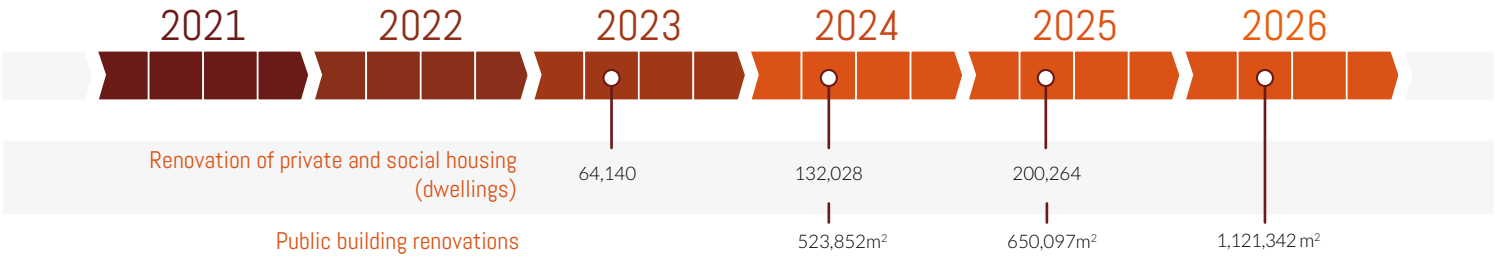
In Belgium, 'Energy Houses' offer technical and financial assistance in the three regions, although their reach can be limited. The Plan will support the creation of one-stop shops in Flanders and a regional web portal for Brussels. Funding, training, or qualification support for skills development in the building renovation/construction sector are not provided for in the Plan despite there being a skills shortfall. However, other parts of the Plan, not focused on buildings, could potentially support the development of renovation skills.

IMPLEMENTATION FRAMEWORK

The NRRP sets milestones towards meeting the targets for different programmes, which run across different timescales. Progress will be monitored through existing audit instruments, and a dedicated website developed to communicate the implementation of the Plan. The Secretary of State for Recovery and Strategic Investments is responsible for overall coordination of the Plan at the inter-federal level. The implementation framework includes an inter-federal Monitoring Committee comprising representatives of the relevant responsible institutions.

TRACKING/ TIMELINE TO 2026

Alongside a set of qualitative milestones for reforms to existing grant schemes in the residential sector, the NRRP includes the following quantitative targets:



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Belgium's NRRP sets aside a significant share of its funding to accelerate energy renovation in the residential and public sectors. With proposed reforms to existing subsidy schemes, including the expansion of one-stop shops, the Plan makes a positive step towards accelerating household take-up. To promote progress on deep renovations, the following steps can be taken:

- Quantify skills gaps and support supply chain development and skills to prepare for an increase in demand and accelerate delivery rates.
- Monitor whether the newly established one-stop-shops Brussels' web platform is sufficient to support take-up at scale and take action to increase capacity if needed.
- Develop a strategy to integrate energy renovation with the pursuit of other priorities, such as addressing energy poverty, improving air quality, adaptation of the built environment and the development of Belgium's circular economy.

NOTE

The survey was complemented with a targeted desk-based review of Spain's Long-Term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the same draft Plan.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Belgian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 1.1: RENOVATION This component of the Belgian recovery and resilience plan is focused on the renovation of private and public buildings. The main objective of the component is to renovate the existing building stock and make it more energy and resource efficient. These include in particular public buildings, social infrastructure and residential housing, and more generally the less performing buildings in terms of energy efficiency. Therefore, this component contributes to reducing greenhouse gas emissions, increasing job opportunities and growth in sustainable construction, as well as social resilience through the reduction of energy bills.				
Investment 1A in 'Renovations of private and social housing' (I-1A) The objective of the investment is to stimulate the energy-efficient renovation of private and social housing. The implementation of the investment shall be completed by 30 June 2025. The investment is composed of the following six sub measures: • Investment I-1.01: 'Renovation of social housing' of the Flemish Region • Investment I-1.02: 'Renovation of social housing' of the Brussels-Capital Region • Investment I-1.03: 'Renovation of social housing' of the German-speaking Community • Investments part of Reform R-1.01: 'Improved energy subsidy scheme' of the Flemish Region • Investments part of Reform R-1.02: 'Improved energy subsidy scheme' of the Brussels-Capital Region • Investments part of Reform R-1.03: 'Improved energy subsidy scheme' of the German-speaking Community				
I-1A **Renovations of private residential and social housing**		Q2 2023/ Q2 2024/ Q2 2025/ Q2 2026	4/6/8/10	By Q2 2023, renovation of 63.776 (or 64.140?) residential dwellings (social housing and private) with the support of energy grants achieving primary energy demand reduction in line with climate tagging requirements. By Q2 2024, renovation of 131.664 (or 132.028?) residential dwellings (social housing and private) with the support of energy grants achieving primary energy demand reduction in line with climate tagging requirements. By Q2 2025, renovation of 199899 (or 200.264?) residential dwellings (social housing and private) with the support of energy grants achieving primary energy demand reduction in line with climate tagging requirements. By Q2 2023, award of 8.460 grants to households for home batteries and smart control appliances in Flanders since Q2 2021. By Q2 2026, renovation of social housings by the social housing companies in Flanders, in line with tagging requirement, financed through EUR 250 million in loans.
Investment I-1.01: 'Renovation of social housing' of the Flemish Region The objective of the measure is to stimulate and accelerate the energy renovation of social housing by increasing the support from the Flemish Climate Fund to social housing companies and the Flemish Housing Fund.				
subsidies	30,00 (subsidies) 5,00 (loans)			Financing under the RRF is expected to allow around 4 050 social housing units to benefit from support for energy renovation. In addition, in 2021, the Flemish Region shall increase by EUR 250 million the authorisation for a subsidised loan to the Flemish social housing company (Vlaamse Maatschappij voor Sociaal Wonen) to allow it to step up renovations.
Investment I-1.02: 'Renovation of social housing' of the Brussels-Capital Region The project involves the publication, award and performance of 15 public works contracts by the Brussels social housing company (Société du Logement de la Région de Bruxelles-Capitale).				
	43,44			The measure consists in contributing to financing the renovation of 1711 social housing units in Brussels, leading to a reduction of 53 % of the energy consumed and lead to an estimated reduction of 4452 tonnes of CO2 emissions per year.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Investment I-1.03: 'Renovation of social housing' of the German-speaking Community The measure will support the German-speaking Community equity participation in the social housing company "Öffentliche Wohnungsbaugesellschaft Ostbelgien", which shall allow the social housing investment programme to be carried out, with priority given to most urgent works.				
	20,00			The measure consists in supporting the multiannual renovation programme of an estimated 509 social housing units representing about a third of the total social housing stock of the German-speaking Community.
Reform R-1.01: 'Improved energy subsidy scheme' of the Flemish Region The measure is composed of several reform and investment sub-measures whose overall objective is to provide more efficient renovation incentives and to accelerate private energy efficiency investments in Flanders: (i) reform of the subsidies for energy efficiency and renewable energy and subsidies by target groups for improving housing quality which shall be integrated into a single scheme. All aspects of this reform shall enter into force by 1 April 2022 at the latest.				
smart control	20,35 (investment part - smart control) 212,97 (except smart control)	Q1 2022	2	The new one-stop-shop, user-friendly and transparent system shall be available as from 2022 and is expected to support the energy efficient renovation of 202.000 dwellings; (ii) revision of the energy label scheme which is expected to support the energy efficient renovation of 8.400 dwellings; (iii) introduction of a demolition-reconstruction grant complementing the federal reduced VAT scheme which is expected to support the reconstruction of 1760 dwellings; (iv) revision of the renovation support scheme for smart control of heat pumps, electrical boilers, electric storage heating and home battery intended which is expected to support 8.400 households.
Reform R-1.02: 'Improved energy subsidy scheme' of the Brussels-Capital Region This reform consists of reforming and merging the energy bonuses and housing renovation premiums into a single regional mechanism for individuals as from 2022. Thanks to the unified system, citizens shall have a clearer picture of the amount they are entitled to for their renovation work and shall see a simplification of the administrative procedures for obtaining financial support through regional bonuses. Only one regional web portal shall inform applicants about the premiums available and there shall only be a single digitalised procedure for citizens. The regulation reforming the energy grant schemes for residential and private renovations in the Brussels-Capital Region shall enter into force by 31 March 2022.				
Improved energy subsidy scheme (investment part)	16,00	Q1 2022	2	The investment is expected to support 3717 energy efficiency renovations.By Q1 2022
Reform R-1.03: 'Improved energy subsidy scheme' of the German-speaking Community The measure shall introduce a new system of energy premiums in the German-speaking Community as from July 2021. The purpose of the bonus project is, in particular, to create incentives for the implementation of energy saving measures and the reduction of carbon dioxide emissions for existing residential buildings in the German-speaking Community. The reform aims at distinguishing between small works, allowing access to bonuses in a simplified way, and major works, which shall require more detailed administrative procedures. The investments is expected to support 815 medium to deep energy-efficient renovations. The regulation reforming the energy grant schemes for residential and private renovations in the German Community shall enter into force by 31 March 2022.				
Improved energy subsidy scheme (investment part)	5,00	Q1 2022	2	By Q1 2022, entry into force of regulation to reform the energy grant schemes for residential and private renovations in the German Community.
Investment 1B 'Public building renovation' (I-1B) The objective of the investment is to renovate and improve the energy-efficiency of public buildings. The implementation of the investment shall be completed by 30 June 2026. The investment is composed of the following nine sub measures: • Investment I-1.04: 'Renovation of public buildings' of the Federal State • Investment I-1.05: 'Renovation of public buildings' of the Flemish Region • Investment I-1.06: 'Renovation of public buildings' of the Walloon Region • Investment I-1.07: 'Renovation of public buildings - local authorities & sport' of the Walloon Region • Investment I-1.08: 'Renovation of public buildings' of the Brussels-Capital Region • Investment I-1.09: 'Renovation of public buildings - schools' of the French Community • Investment I-1.10: 'Renovation of public buildings - sport & IPPJ' of the French Community • Investment I-1.11: 'Renovation of public buildings - universities' of the French Community • Investment I-1.12: 'Renovation of public buildings - culture' of the French Community				

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
I-1B Public building renovation		Q1 2022/ Q2 2024/ Q2 2025/ Q2 2026	2/6/8/10	By Q1 2022, adoption by the Parliament of the electricity ordinance defining the public service mission of Sibelga, including the operation of the one-stop shop for public renovations in Brussels. By Q2 2024, renovation of 523.852 m² of public buildings, achieving primary energy demand reduction in line with climate tagging requirements. By Q2 2025, renovation of 650.097 m² of public buildings, achieving primary energy demand reduction in line with climate tagging requirements. By Q2 2026, renovation of 1.121.342 m² of public buildings, achieving primary energy demand reduction in line with climate tagging requirements.
Investment I-1.04: 'Renovation of public buildings' of the Federal State The investment measure consists in renovating the historical building of the Brussels Stock exchange, which shall lead to a substantial improvement in its energy performance with the aim of creating a new economic, tourism and socio-cultural hub. The compound is designed to host temporary exhibitions and events, as well as a permanent exhibition on Belgian brewing traditions (Belgian Beer World) on the upper floors.				
	6,32			The estimated total surface area of the building is approximately 12.000 m2 (including basement and archaeological site).
Investment I-1.05: 'Renovation of public buildings' of the Flemish Region The investment measure consist in stepping up investments in building stock renovation to accelerate the energy renovation of public buildings. Support shall be granted via the Flemish Energy Company (Vlaams Energiebedrijf) which acts as the central purchasing body and service provider for other public services (in particular the central administration) in the field of energy-related services. The measure involves (i) direct support actions in the form of energy-efficient works and (ii) indirect support action like energy audits.				
	20,00			The measure is expected to result in the renovation of an estimated 86.711 m² in public buildings.
Investment I-1.06: 'Renovation of public buildings' of the Walloon Region The existing UREBA subsidy scheme shall be adjusted in the years 2021-2026 to further facilitate deep renovations. Support shall cover only energy-saving investments out of a total investment of EUR 375 million.				
	59,54	Q1 2022	2	By Q1 2022, entry into force of the regulation for the reform of the UREBA scheme for public building renovations in Wallonia. The investment measure aims at putting in place an innovative renovation facilitation system, including the necessary accompanying measures, in order to bring about deep renovations of between 750 and 1000 public buildings in the Walloon region, (corresponding to an estimated surface of 300000 m²).
Investment I-1.07: 'Renovation of public buildings — local authorities & sport' of the Walloon Region The measure aims to improve the energy performance of (i) public buildings of local authorities and of (ii) sports infrastructure in the Walloon region. Support shall be awarded via a call for applications open to local authorities and eligible sports structures. The measure is expected to lead to the renovation by 30 June 2026 of a total estimated surface of 202359 m² of public building of local authorities, achieving on average at least a 30% reduction in primary energy demand, as well as 84122 m² of sport infrastructures.				
local authorities	73,00			The measure is expected to lead to the renovation by 30 June 2026 of a total estimated surface of 202359 m² of public building of local authorities, achieving on average at least a 30% reduction in primary energy demand, as well as 84122 m² of sport infrastructures.
sport (energy efficiency related works)	55,18			
Investment I-1.08: 'Renovation of public buildings' of the Brussels-Capital Region The investment measure consists of two parts: (i) the development of a one-stop-shop (to be managed by SIBELGA, the operator of the electricity and gas distribution network in the Brussels Region, under a public service obligation) to facilitate and accelerate deep energy renovations of public buildings of local and regional authorities in Brussels; (ii) energy subsidies for the selected public renovation works. The electricity ordinance defining the public service mission of Sibelga, including the operation of the one-stop shop for public renovations in Brussels shall enter into force by 1 February 2022.				
	32,00			The measure aims to cover all types of use of public buildings and renovate an estimated total surface of 34000 m² by 30 June 2026 achieving on average at least a 30% reduction of primary energy demand.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Investment I-1.09: 'Renovation of public buildings - schools' of the French Community The investment measure shall (i) support an investment plan in school buildings owned by the French Community and (ii) via a call for projects to grant support for the renovation of school buildings in educational networks subsidised by the French Community.				
	71,66			The expected total construction and renovation target is 320709 m² by 30 June 2026, structured around light, medium and deep renovations, as well as demolitions and reconstructions.
	23,60			
Investment I-1.10: 'Renovation of public buildings - sport & IPPJ' of the French Community This investment measure supports (i) the renovation of sport infrastructures and (ii) the renovation of facilities dedicated to youth (Institutions Publiques de Protection de la Jeunesse -IPPJ).				
ADEPS et IPPJ (energy efficiency related works)	21,07			A total of 30150 m² is expected to be renovated by 30 June 2026 achieving on average a reduction in primary energy demand of at least a 30%.
Investment I-1.11: 'Renovation of public buildings - universities' of the French Community The investment measure aims at renovating outdated and energy-inefficient university buildings of the French Community following a call for projects. The measure is expected to lead to the renovation of 34000 m² and lead on average to a reduction in primary energy demand of at least 30%.				
	15,00			The investment measure aims at renovating outdated and energy-inefficient university buildings of the French Community following a call for projects.
	25,00			
Investment I-1.12: 'Renovation of public buildings - culture' of the French Community The investment measure aims at the energy efficient renovation of cultural public buildings in the French Community. The measure consists in two parts: (i) energy renovation of cultural infrastructure belonging to the French Community and (ii) grants for energy renovation projects of cultural infrastructure not owned by the French Community (such as infrastructure owned by the local authorities) awarded through a call for project.				
	20,68			The measure is estimated to allow an estimated surface of 51290 m² to be renovated, of which 29225 m² with an average reduction in primary energy demand of at least a 30% (7000 m² under (i) and 22225 m² under (ii)).
	18,64			
Investment I-1.13: 'Renolab: Renovation laboratory' of the Brussels-Capital Region The investment measure is composed of two complementary mechanisms aiming at demonstrating innovative, circular and sustainable energy-efficient renovations in Brussels: (i) call for projects to support pilot projects, and (ii) a call for projects for the sustainable and exemplary renovation of the Brussels buildings, focusing either on financing innovative concepts, or on innovative and exemplary renovation works.				
	13,43	Q1 2024	6	By Q1 2024, award of contracts through the adoption of a governmental decision to 25 pilot and 50 concept projects for exemplary energy efficiency and renovation practices and of execution projects accounting for 20,000m² of floor surface (Renolab).
COMPONENT 4.3: SOCIAL INFRASTRUCTURE				
Investment I-4.12: 'Development of public utility housing and housing for vulnerable persons' of the Walloon Region This investment aims at increasing the supply of social housing for vulnerable groups, also as part of a deinstitutionalisation strategy. The investment includes the construction and energy-efficient renovation of low-rent housing, of inclusive and solidarity-based housing, as well as of homeless accommodation places. Part of this housing shall be equipped with modern technologies assisting the people concerned in their daily lives, in order to delay or avoid institutionalisation of persons with reduced autonomy or to reduce the length of their hospitalisation. Prior to this investment, the Walloon government shall adopt a deinstitutionalisation strategy for long-term care.				
Volets 1&2_Building	120,80	Q3 2023/ Q3 2026	5/10	By Q3 2023, award of works contracts by operators for 280 of the 700 public utility housing, inclusive and solidarity-based housing, as well as accommodation places for poorly-housed groups. By Q3 2026, 1.600 public utility housing units built or renovated in the Walloon Region are ready to be occupied.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Investment I-4.13: 'Creation and renovation of early childcare infrastructure' of the Walloon Region The investment aims at improving the coverage in early childcare. The investment includes the construction and energy-efficient renovation of childcare places. New places shall be created in those municipalities, which combine a low childcare coverage with a low female employment rate, a high share of single parents and a low per capita income.				
construction & renovation	61,00	Q3 2023/ Q3 2026	5/10	By Q3 2023, award of works contracts by operators (crèches) for 15 % of the newly created childcare places, i.e. 255. By Q3 2026, 1.700 new childcare places have been created as part of the early childcare infrastructure in Wallonia. New childcare places include both places that are created as a result of the construction of new buildings or of the renovation of existing buildings.
COMPONENT 5.1: TRAINING AND LABOUR MARKET				
Investment I-5.01: 'A6K/E6K Digital and Technological Innovation and Training Hub' of the Walloon Region The investment measure shall develop a multidisciplinary centre for engineering science (A6K), co-locating industrial enterprise teams, start-ups, universities and research centres to stimulate innovation and industrial transformation in Wallonia, as well as a technological education centre (E6K), an innovative physical platform bringing together public and private digital and technological education operators in the city centre of Charleroi offering varied training in content and duration. The investment consists in the renovation and construction of buildings hosting the centres, and the support of activities necessary for the acceleration and scaling-up of the project.				
	86,80	Q1 2023/ Q2 2026	4/10	By Q1 2023, completion of business development steps for the establishment of the Digital and Technological Innovation and Training Hub By Q2 2026, 25.000 m² of fully equipped building for training, employment and incubation services.
Investment I-5.02: 'EU Biotech School and Health Hub' of the Walloon Region The investment measure shall cover the construction and equipment of a training centre of 5.500 m² located in the Bio-park in Gosselies (Hainaut Province, Walloon Region) focused on developing skills for the further development of the biotech/biopharma sector				
	24,80	Q3 2025	9	By Q3 2025, 5500 m² of fully equipped building for training, employment and incubation services, as part of a construction by SODEVIMMO of a polyvalent building, named Biotech 5 of 25.000 m² at the BioPark in Gosselies.
Investment I-5.03: 'Upgrading of advanced training infrastructure' of the Walloon Region The investment measure shall cover the construction, renovation, renewal of state-of-the-art equipment, of eight projects to support skills development in Wallonia: (i) the Belgrade Training Centre (Namur); (ii) the extension and fitting-out of the CEFOCHIM Competence Centre; (iii) the extension of the Technocity Competence Centre; (iv) the renovation of the Technical Competence Centre (Seraing); (v) the extension of the AutoFORM Competence Centre; (vi) the extension of the Green Sectors Competence Centre (Ath); (vii) the extension of Forem's classical training centre infrastructure; (viii) the creation of a Centre for Contemporaines Eco-Technologies and Continuous Training (Mons). The implementation of the investment shall be completed by 30 June 2026.				
I-5.03Upgrading of advanced training infrastructure of the Walloon Region	46,25	Q2 2025/ Q2 2026	8/10	By Q2 2025, 16.000 m² cover the renovation, construction and equipment of the following buildings: Cefochim, Technocité, Forem, Technifutur, Autoform, Secteurs Verts, Centre des Ecotechnologies – Mons By Q2 2026, total of 39.000 m2 renovated and equipped buildings, with an additional 23 000 m² covering the 'Ecocentre de formation' in Belgrade and the 'Centre des Ecotechnologies' in Jemappes.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

BACIW

COUNTRY:

BULGARIA

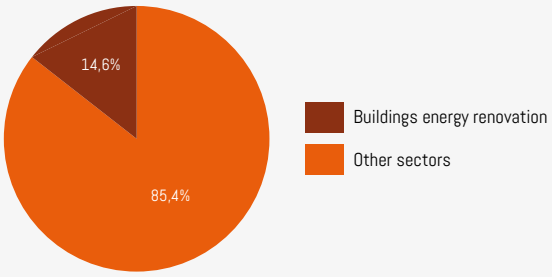
OVERVIEW:

Bulgaria's Country Profile is based on information provided by Renovate Europe's Bulgarian National Partner: the Bulgarian Association for Construction, Insulation and Waterproofing (BACIW). This Country Profile focuses on the buildings elements of the Bulgarian National Recovery and Resilience Plan draft from July 2021.
The Plan allocates significant resources for energy efficiency improvements especially for multifamily residential buildings and sets clear delivery milestones, which are however not aligned to the national targets defined in the LTRS. It can benefit from strengthening delivery through private capital mobilisation and setting a strong basis for supply chain and project support.

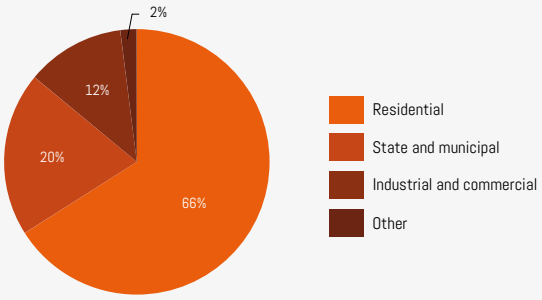
BUILDINGS IN THE CONTEXT OF THE PLAN

Bulgaria's draft NRRP comprised measures worth €10bn of which €6.5bn from the EU Recovery and Resilience Facility. It allocates a relatively high share of funding to energy efficiency – nearly €1.4bn of which €947m from the Recovery Facility (14.6%), €318 m national financing, and €129 m private financing. The largest share of energy efficiency measures targets multifamily residential buildings (€627m), followed by state and municipal buildings (€185m), and industrial and commercial buildings (€118m). Around €1.6m are in place for four reforms: one stop shop; quality of the energy efficiency certificates; digital system for management of the process; and assessment of the sustainability of projects. Around €3m are set aside for administrative capacity investment, and €7.5m for programme management and information campaigns. €4m are foreseen for a pilot project for rolling out building information modelling (BIM) and €1.5m for the creation of a unified information system for spatial planning, investment design and construction permitting.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A study for the EC[1] based on 2012-2016 data estimates that only 1.3% of energy renovations in the residential sector were medium depth and 0.1% deep renovations. For non-residential buildings 5.3% were medium, and 0.6% deep renovations. One of the main challenges to accelerate multifamily buildings renovation and increase reach and ambition is the transition from a mechanism of 100% grant financing which currently dominates the National Programme for Energy Efficiency to a gradual increase of homeowners' participation. Addressing energy poverty is another key issue, with a third of the population unable to adequately warm their home. Other challenges include financial resources, the need for regulatory reform along with information and training campaigns.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP makes direct reference to Bulgaria's LTRS, although it would, on its own, be unlikely to meet national objectives in terms of reach and energy savings. BAWIC estimates that the funding would cover only 35% of the renovation targets in terms of area until 2030, and reach only 2% of multifamily buildings, while single family homes, which host nearly half of the Bulgarian population, are not targeted for support. Energy efficiency targets are set in terms of EPC improvement: class B for residential buildings, class A for state-owned and municipal buildings, and at least 30% primary energy savings for residential, industrial, and commercial buildings. Energy efficiency audits will be used to validate realised savings in the non-domestic (public and commercial) sectors. There are no established mechanisms for monitoring realised savings in residential properties. Delivery milestones are nevertheless clearly set in terms of renovated area, broken down by buildings segment. Expectations for energy savings are modest in the public sector - 1.3% annual primary energy demand reduction (37.9 GWh/y savings by 2026), and significant for multifamily buildings – 1,070 GWh/y by 2026 (compared to 976 GWh/y achieved in the period 2016-20). The target in the LTRS however is much higher – 2,477 GWh/y until 2030. For multi-family buildings the focus is on envelope measures, without explicit reference to the Energy Efficiency First principle.

FINANCIAL LANDSCAPE AND PERSPECTIVE

According to Bulgaria's Long-Term Renovation Strategy (LTRS), energy efficiency funding provided through Operational Programmes until 2020 covers 8% of total financing necessary for the non-domestic sector, and 9% in the residential sector. The estimated investment needed in the period 2021-2025 is €162m per year, rising to €314m per year in the period 2026-2030 – resulting in a total of €1.1 bn until 2026. This is in line with overall funding allocated to renovation in the NRRP, but its distribution appears misaligned – falling short of the planned amounts in the residential sector and exceeding those in the public sector. Interactions with other programmes for residential and public sector remain unclear. For the residential sector financing takes the form of grants with higher grant intensity for less efficient energy properties – 85% for class D, and 100% for class E, F, G. This approach raised strong reactions within the expert community, with stakeholders arguing that without any parallel support instruments available, there will be no uptake of the programme for class D, and this potential failure would doom further efforts to decrease the grant component. In the commercial and public sector grants can be combined with financial instruments or ESCO services. The NRRP currently envisages to attract only €129 m private finance. There's a proposal to create a 'National Decarbonisation Fund' to combine different financial instruments and grants, expected to be operational from 2023 at the earliest. Initial supply of funds is not foreseen for the fund, which would instead rely on cost savings from the public and commercial sectors under NRRP programme to gather finance.

MULTIPLE BENEFITS AND INTEGRATION

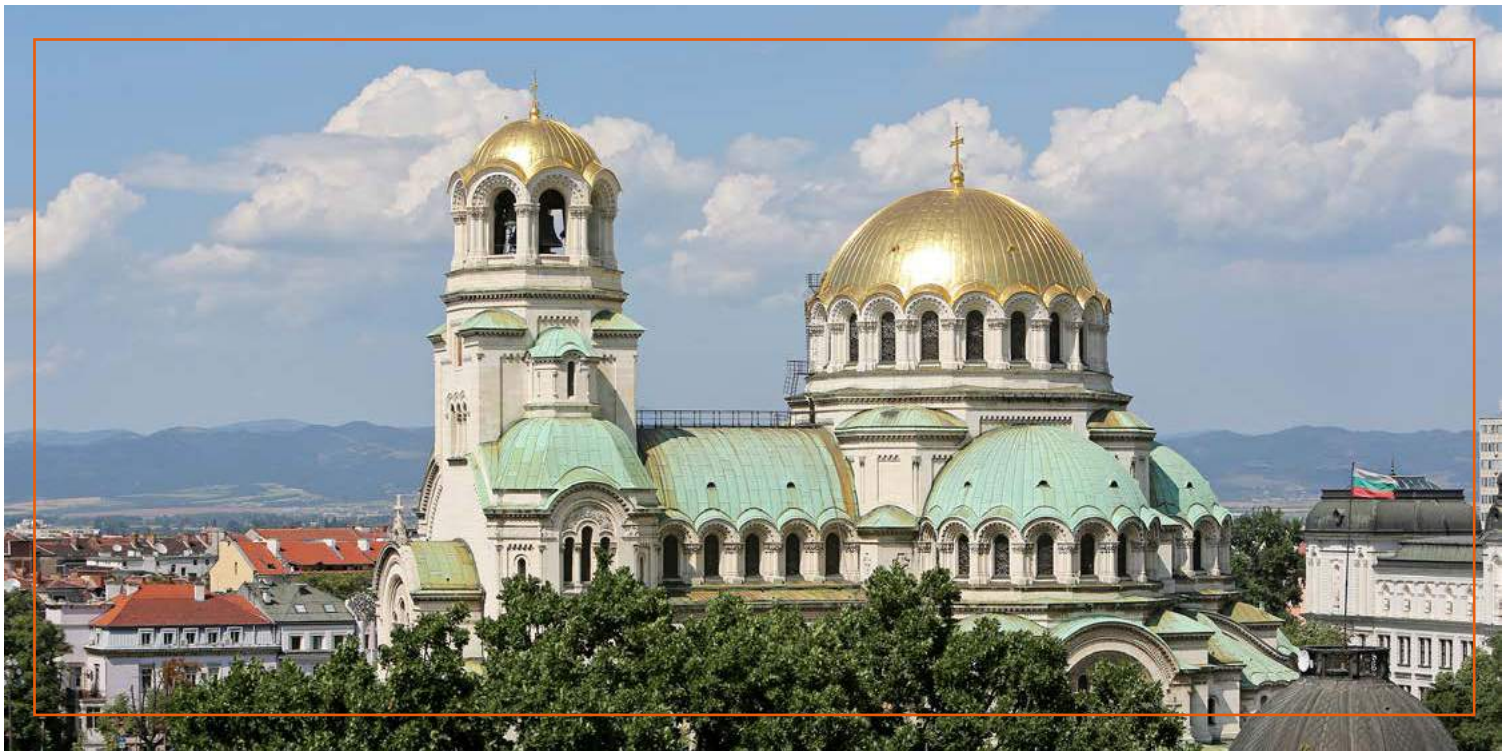
The NRRP includes reforms to develop a definition of energy poverty for households to help identify vulnerable owners. At present, NRRP-funded energy efficiency grants are not explicitly targeting low-income or energy poor households as the multifamily properties class E, F, G represent 90% of remaining stock that requires renovation, and there are no specific requirements linked to income or other social or economic criteria. There are measures linked to energy system decarbonisation at household level, including solar thermal and power systems and heat pump installations, but they are not linked to the energy efficiency of buildings. Two projects focus on digitalisation in the buildings sector: the creation of a unified information system for spatial planning, investment design and construction permits, and a pilot for building information modelling in investment design and construction. Further opportunities to drive a clean and resilient economy through renovation activity such as just transition, health, air pollution, adaptation, urban regeneration, and mobility, are not explicitly addressed.

SUPPLY CHAIN AND PROJECT SUPPORT

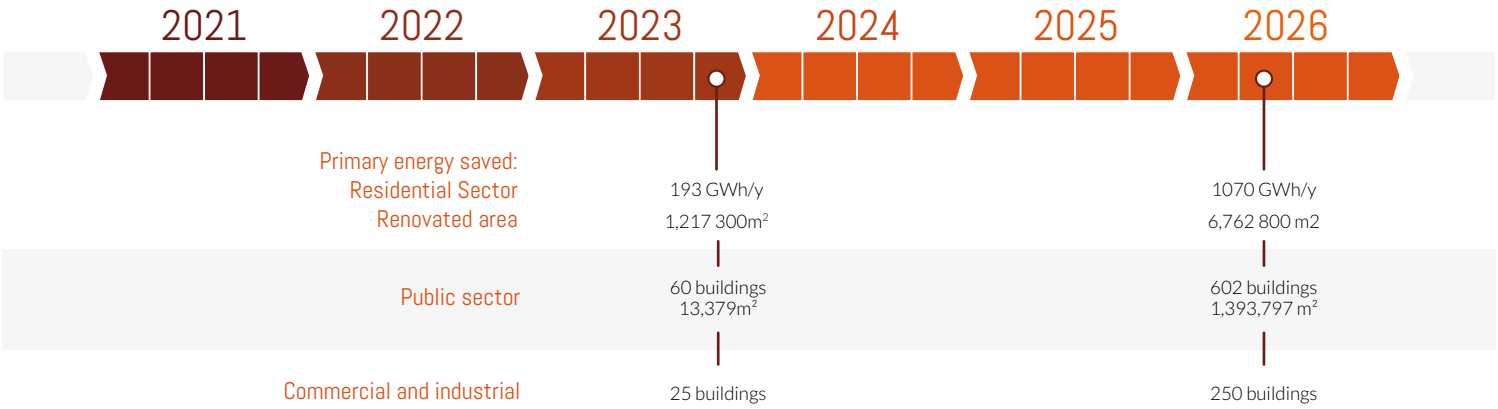
Bulgaria foresees reforms to pilot and scale regional one-stop-shops with funding from the national budget. The aim is to create initially 6 and later a total of 28 regional centres, mainly focused on providing advice and technical assistance. Further details on services are to be defined through working groups. Further administrative and technical support is foreseen for local administrations as part of individual renovation programmes. The NRRP includes the creation of two programmes for the development of building information management skills expected to form part of university education. Programmes for the wider upskilling of energy and construction professionals are not part of the plan.

IMPLEMENTATION FRAMEWORK

The NRRP sets milestones and targets for 2023 and 2026.The expectation is for the majority of savings to be realised in the second half of the period post 2023, which highlights the need for adequate monitoring and tracking of progress to ensure programmes are on track. The Ministry of Regional Development and Public Works is responsible for monitoring implementation. Existing reporting mechanisms tend to be published on an annual basis and include information about total area renovated, investment, number of beneficiaries, calculated savings in terms of GWh per year, broken down by administrative region. There is no monitoring mechanism envisaged for the actual performance of the buildings after renovation.



TRACKING/ TIMELINE TO 2026 (2030/2050)



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

While Bulgaria's NRRP makes important steps towards further energy renovation in the country, the plan can be streamlined further to meet LTRS objectives. There is untapped potential to leverage private finance to increase the overall volume of investment, which would present an opportunity to drive forward other strategic priorities alongside renovation. The Plan offers an opportunity to establish a strong foundation for key elements of the renovation ecosystem and to scale up and sustain the rate of deep renovations to 2030. To do this, further steps should be taken to:

- For the residential sector, consider the inclusion of single family buildings within the scope of the programme and support the development of parallel financing mechanisms to enable access to financing for homeowners' contributions. Ensure separate aspects of the plan (National Fund for Decarbonisation, energy poverty definition for the purposes of undertaking renovation programmes, on-bill financing) are well integrated with investment measures.
- Ensure one-stop-shops are established based on best practice and monitor whether they are sufficient and adequate to the challenges; act promptly to scale technical advice capacity as required to ensure measures have sufficient geographical reach and positively impact fuel poverty.
- Improve measurement and verification procedures to ensure that measures funded under the plan deliver stated objectives (e.g. EPC rank A or B) and support the management of the renovation process by supporting upskilling (e.g. professional renovation managers).

NOTE

The survey was complemented with a targeted desk-based review of Bulgaria's Long-Term Renovation Strategy (LTRS) to place its NRRP in context.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

HUPFAS
HRVATSKA UDRUGA PROIZVOĐAČA TOPLINSKO FASADNIH SUSTAVA

COUNTRY:

CROATIA

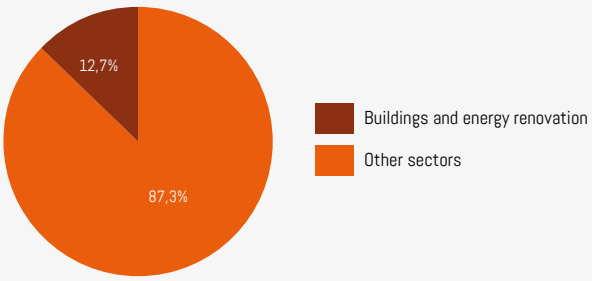
OVERVIEW:

Croatia's Country Profile is based on information provided by Renovate Europe's Croatian National Partner: HUPFAS and ROCKWOOL Adriatic (a leading participant in HUPFAS). This Country Profile focuses on the buildings elements of the Croatian National Recovery and Resilience Plan (NRRP) endorsed by the Commission in July 2021.

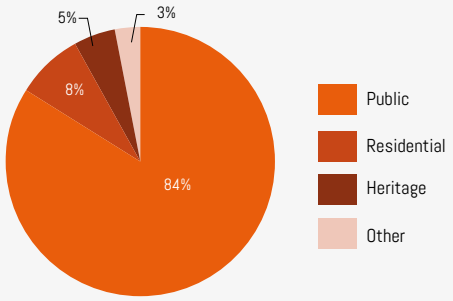
BUILDINGS IN THE CONTEXT OF THE PLAN

Croatia's NRRP comprises measures worth €6.3bn and allocates €798.4m (12.7%) to the renovation of buildings. €600m is programmed for the reconstruction of buildings damaged in earthquakes including their energy renovation (€23m for residential and €577m for public buildings), €134m are allocated for the wider energy renovation of buildings not affected by earthquakes (€40m for multi-unit buildings and €94m for public buildings), and €40m are set aside for the energy renovation of heritage buildings. A further €5.3m are assigned to skills development in the context of green jobs needed for post-earthquake reconstruction and energy renovation; €4m for increasing administrative efficiency and digitalisation of the renovation process; €2.7m for the introduction of a model green urban renewal strategies, green infrastructure pilots and circular economy projects; €1.6m for the establishment and implementation of systematic energy management and the development of new financing models; and €10.9m are allocated to the development of a seismological data network, including modernisation and integration of seismic data while €0.6 m are for modernization and integration of seismic data for the process of reconstruction and planning of future construction and monitoring of public infrastructure.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] based on 2012-2016 data estimates that only 1.5% of residential sector renovations were medium depth and 0.1% deep renovations, based on floor area. Energy renovations in non-residential buildings was estimated to comprise only 1.1% medium, and 0.2% deep energy savings. These shares will have changed since, as renovation programmes across the 2016-2020 period targeted at least 50% energy savings for most projects, with the exception of single measures improvements in single family houses. National partners highlighted the following major challenges: seismic renovations of buildings are time-consuming and slow due to very complex procedures; one third of the existing buildings are not seismically resistant in line with current European standards; rising construction material and service costs driving renovation costs per m2 up considerably; a shortage of suitably qualified labour and prolonged delivery times for construction materials; and the need for significant further financial resources; the ESCO renovation model of public buildings which mobilised private capital and which was very successful between 2016-2020 is no longer applicable and needs some legal modifications and this process is very slow and uncertain.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Against the backdrop of Croatia's NECP goals – for additional emissions reduction from buildings of 320 ktCO2e by 2030 and an increase in the renovation rate from the current 0.7% to 3% by 2030 – the NRRP sets out energy efficiency improvements for multi-family, public, and heritage buildings. The NRRP states that the Energy Efficiency First Principle is to be applied, and that projects are expected to support holistic renovations. Multi-family homes and public buildings that will be renovated using the Plan's funds are expected to achieve a heat demand and projected heating energy consumption reduction of at least 50%. For buildings with heritage status, the requirement is for a reduction of projected energy consumption to be at a minimum of 20%, and minimum 30% at portfolio level. Larger savings will be encouraged where possible with grants of up to 80% for deep renovation projects, while regular renovation projects will be grant-supported up to 60%.

FINANCIAL PERSPECTIVE AND LANDSCAPE

Besides global price increases of construction materials, complex seismic renovations have driven up renovation costs, creating a financing need that is approximately ten times greater than the available renovation funds. Croatia's Long-Term Renovation Strategy (LTRS) estimates the necessary investments in energy and comprehensive renewal of its building stock at €32.3bn to 2050. Nearly 40% of this is foreseen for the construction of new energy efficient buildings over the same period, and around 15% for the generation of electricity using renewable energy sources. Croatia's NRRP includes specific measures to encourage loans and other financial instruments, for example by providing access to 'green' financial instruments or those from European funds in the form of loans and guarantees. All currently available sources of public finance will be taken into account (RRF, ERDF, EU Solidarity Fund, World Bank Loan, MFF), and the most appropriate source of finance for individual activities will be coordinated in order to avoid double funding. The plan foresees further development of the ESCO market.

MULTIPLE BENEFITS AND INTEGRATION

The Croatian Government intends to define renovation programmes for 2021-2030 dedicated to family houses, multi-apartment buildings, public buildings, cultural heritage and energy poverty, all promoting deep and comprehensive building renovation. There is a designated 'Fighting Energy Poverty' programme which also includes the promotion of renewable energy sources in buildings. Under the programme, energy renovations will be fully funded in 'areas of special state concern'. The NRRP allocates funds for more efficient administration, efficiency, and digitalisation of the renovation process. Whole-building renovation is foreseen which includes packages of measures to improve the energy performance of the building, alongside fire safety, measures to ensure a healthy indoor climate, and measures to improve structural resilience, especially to reduce risks associated with earthquakes. The piloting of new green urban renewal strategies, and the implementation of pilot projects for the development of green infrastructure and circular management of spaces and buildings are also set out in the Plan.

SUPPLY CHAIN AND PROJECT SUPPORT

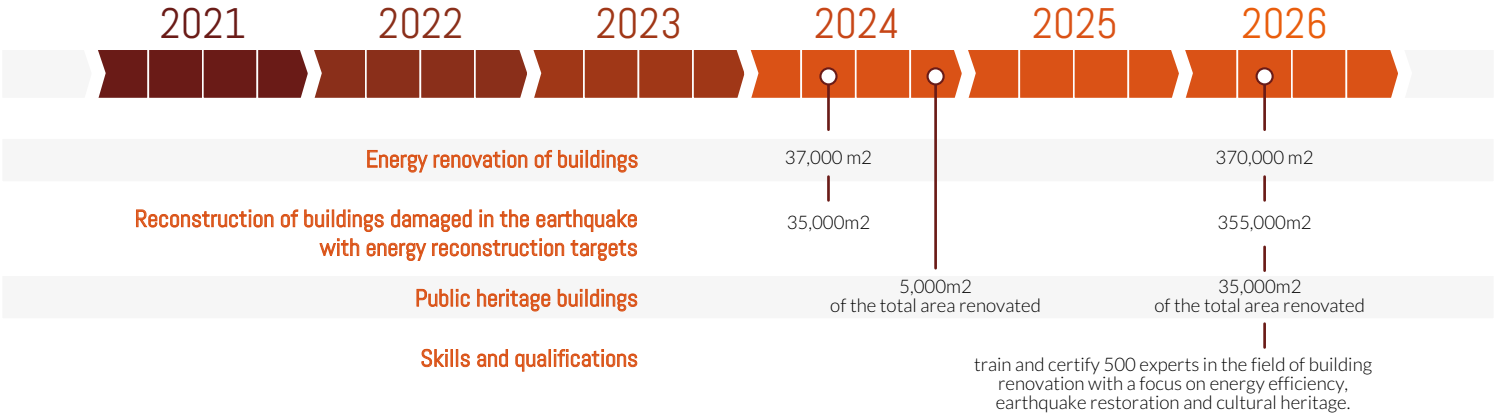
Croatia's Plan includes a framework for ensuring adequate skills for: green jobs needed for post-earthquake reconstruction, and the modernisation and integration of seismic data to enable reconstruction, planning of future construction, and the monitoring of public infrastructure. Funding is programmed for the establishment of one-stop shop services for energy and seismic renovation. One-stop-shops will also be funded at regional level (e.g. via regional energy agencies) to provide technical support such as workshops, providing information on energy auditor registers and certified designers, assistance in reviewing documentation and applications for funding.

IMPLEMENTATION FRAMEWORK

The Energy Efficiency First principle, with a 50% energy savings indicator, will be applied. Savings will be calculated and presented for renovation projects in accordance with EPBD calculation methodologies and verified through the digital SMIV tool (System for Monitoring, Measurement and Verification of Energy Savings). Clear milestones have been set on the way to meeting the Plan's targets. Several Ministries will be responsible for monitoring the implementation of measures. The Ministry of Construction will be the coordinator for the renovation flagship initiative, while the Ministries of Culture and Education, local governments, and more will be launching public calls for projects. Croatia's Plan also provides for a review of the NRRP management system.

TRACKING/ TIMELINE TO 2026

Alongside a series of qualitative targets, the Croatian NRRP sets the following quantitative renovation targets:



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Croatia's NRRP sets out a substantial investment in renovation and renewal that can tackle multiple priorities, alongside a comprehensive framework that addresses many major elements needed for successful delivery of the Plan. However, the energy renovation target only corresponds to approximately 0.25% of Croatia's residential floor area, meaning there is still a long way to go to achieve a renovation rate of 3% by 2030. Nevertheless, the Plan is close to transformational in quality for tackling deep and complex renovations – if not in scale – and enhances the enabling conditions for scaling up the rate of deep renovations to 2030. To build on this and to go further, steps could be taken to:

- Set out how to build on the reforms, programmes, capacity building and skills being put in place to attract additional investment, including from private sources, at the scale needed
- Monitor whether existing technical support resources are sufficient to support take-up at scale and prepare to scale up / roll out capacity as needed.
- Plan for how the renovations planned could be harnessed to accelerate the decarbonisation of the building stock.

NOTE

The survey was complemented with a targeted desk-based review of Croatia's Long-term Renovation Strategy (LTRS) to contextualise its NRRP.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Croatian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 1.2: ENERGY TRANSITION FOR A SUSTAINABLE ECONOMY				
C1.2. R1-I2	60.9	Q4 2021		50 contracts awarded to the beneficiary companies, following a public tender to support renewable energy sources and energy efficiency measures in small, medium-sized and large enterprises. In particular, implementation of energy efficiency and/or renewable energy measures shall lead to a minimum reduction of 20% in the energy consumption in production facilities. For energy renovation of buildings accompanying the production facility, which are exclusively linked to industrial or production processes, the implementation of measures shall lead to a minimum reduction of 40% of energy consumption.
COMPONENT 1.5: IMPROVING THE USE OF NATURAL RESOURCES AND STRENGTHENING THE FOOD SUPPLY CHAIN				
C1.5. R1-I1.b Construction and equipping of logistic distribution centres for fruit and vegetables - Construction of the energy efficient logistics distribution centres	37.3	1 by Q4 2023 3 by Q1 2026	5/10	The 4 built Logistic Distribution Centres (LDC) shall include a refurbishment part intended for the reception of the product, cleaning, washing, sorting and packaging, as well as a storage part of suitable reception and storage capacity under chilling and long-term storage and a certain level of processing of the product. The measure concerns the construction of a new building, with a Primary Energy Demand (PED) that is at least 20% lower than the nearly zero energy building (NZEB).
COMPONENT 1.6: DEVELOPING SUSTAINABLE, INNOVATIVE AND RESILIENT TOURISM				
C1.6. R1-I1.b Regional diversification and specialisation of Croatian tourism through investments in the development of high added value tourism products – energy efficiency	74.1	Q4 2025	6	Allocation by tender of 100% of the allocated budget for the construction and adaptation of public tourism infrastructure in accordance with the eligibility/selection criteria for the green and digital transition of existing public tourism infrastructure and the development of public tourism infrastructure outside the main tourist and coastal areas
		Q3 2022	8	Publication of tender documentation for the green and digital transition of existing public tourism infrastructure and the development of public tourism infrastructure beyond the main tourist and coastal areas by Q3 2022.
COMPONENT 2.5: MODERN JUSTICE FIT FOR FUTURE CHALLENGES				
C2.5. R1-I4 Project and implementation of the Zagreb Justice Square project to improve access to justice and efficiency of commercial procedures and administrative disputes	67.9	Q2 2026	10	Conceptual, principal and implementation projects and resulting permits for the construction of the Justice Square in Zagreb shall be obtained, on the basis of which public tenders will be issued for the execution of the works of a building, professional supervision and project manager. Upon construction completion an Utilisation Permit has been obtained for one newly built building in the Justice Square. The investment concerns the construction of a new building, with a Primary Energy Demand (PED) that is at least 20% lower than the nearly zero energy building (NZEB).
C2.5. R1-I5 Implementation of energy efficiency measures to renovate obsolete judicial authorities	10.5	Q2 2024	6	Renovation of 20 judicial buildings shall be completed. The newly renovated buildings shall meet standards on rational energy use and thermal protection. The investment concerns, on average, at least a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786, resulting in achieving at least a 30% reduction of primary energy demand; or, shall achieve, on average, at least a 30% reduction of direct and indirect GHG emissions compared to the ex-ante emissions. In addition, access to buildings shall be adapted to persons with disabilities and this adaptation shall be accompanied by compliance with fire and technical protection standards and the functional design of interiors. In this investment cycle, priority shall be given to the locations of judicial authorities in economically less developed parts of Croatia.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 2.6: PREVENTING AND COMBATING CORRUPTION				
C2.6. R1-I4 Supporting efficiency in the fight against corruption and organised crime – renovation of buildings	2.7	Q2 2025	8	The regional PN USKOK in Zagreb, Split, Rijeka and Osijek centres shall be renovated, fully digitalised and equipped with smart technology and up-to-date functional equipment thereby ensuring functional conditions for the work and accommodation of officials. Renovation also includes energy renovation of buildings, but the requirement to achieve a minimum of 30% of energy savings is not mandatory.
COMPONENT 4.3: IMPROVING THE SOCIAL WELFARE SYSTEM				
C4.3. R3-I4.b Construction and equipping of centres for the elderly (accommodation and services) – energy renovation	9.8	Q2 2026	10	The construction and entry into operation of centres for the elderly shall create conditions for providing integrated care. On the basis of the data obtained from the analysis, provision is made for accommodation construction of eight centres for 800 beneficiaries exclusively for people who functionally entirely depend on institutional care and whose needs cannot be provided at home or community level. The locations of the elderly care centres shall be determined through a public call to allow cities and counties to participate in the building and equipping of centres for the older people, while the selection criteria shall be guided by the ability to ensure the sustainability of the investments, regional dimension to achieve even territorial capacity coverage, based on the mapping analysis. All new constructions must be nearly zero-energy buildings under the Energy performance of buildings directive (EPBD), while the renovation of existing buildings should achieve on average, at least medium depth renovation, as defined in the Commission Recommendation on building renovation, or achieve on average at least a 30% reduction in direct and indirect greenhouse gas emissions compared to ex-ante emissions. For all buildings, particular attention should be paid to ensuring healthy indoor climate conditions, fire safety and risks associated with increased seismic activity.
INITIATIVE 6.1: RENOVATION OF BUILDINGS This initiative in the Croatian recovery and resilience plan concerns investments and reforms aiming to encourage comprehensive renovation of buildings, including energy renovation, structural reinforcement and post-earthquake renovation. Renovation shall cover multidwelling and public buildings, including health and educational facilities, as well as buildings with the status of a cultural good. The initiative includes reforms that shall support the process of renovation and decarbonisation of buildings, while addressing barriers in the construction market and social issues: i) a reform aimed at decarbonisation of buildings, ii) a reform aiming at increasing the number of workers and experts in energy efficiency and post-earthquake reconstruction iii) a reform aiming at reducing the administrative burden for the applicants in the renovation process, iv) a reform aiming at increasing knowledge of seismic activities, v) a reform aiming at promotion and development of green infrastructure and circular management of buildings and spaces and, vi) a reform aiming at developing ystematic energy management and testing a new energy-efficiency financing model.				
REFORM C6.1.R1 – DECARBONISATION OF BUILDINGS The reform shall contribute to the renovation wave initiative of the existing buildings and to the transformation of the existing building stock into a highly energy efficient and decarbonised building stock by 2050. The reform shall include the adoption of energy efficiency renovation programmes for the period 2021-2030 for multi-dwelling buildings, public buildings and a special category of buildings with a status of the cultural good, as well as the adoption of the energy poverty reduction programme in areas of special state concern for 2021-2025.				
Adoption of national energy renovation programmes for (i) multi-dwelling buildings,(ii) for buildings that have the status of a cultural good (both for the period 2021-30), and for (iii) energy poverty reduction in areas of special state concern (for the period 2021-25).		Q4 2021	1	-Publication on the official website of the Ministry of Physical Planning, Construction and State Assets. -Publication of the programmes to encourage in-depth renovation of buildings, high-efficiency alternative systems and which shall pay particular attention to ensuring healthy indoor climate conditions, fire safety and risks related to increased seismic activity. A specific category of energy renovation of buildings with the status of a cultural asset that has not yet been included in energy renovation programmes for EU co-financing in Croatia shall be introduced. -Publication of the energy poverty reduction programme in areas of special state concern, for the period 2021-2025, covering comprehensive renovation of buildings in assisted and special government care areas, capacity building to alleviate energy poverty, reduce end-use energy consumption and consequently reduce CO2 emissions from energy poor or vulnerable households.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Publication on the official website of the Ministry of Physical Planning, Construction and State Assets		Q2 2022	2	Adoption of the programme for the energy renovation of public sector buildings for the period 2021-2030, which includes a comprehensive renovation of public sector buildings including energy and resource efficiency measures while reducing the thermal needs and energy consumption of public buildings and increasing the use of RES and the consequent reduction of CO2 emissions.
Contracts signed for the energy renovation of public and multi-dwelling buildings		Q4 2022	3	Contracts signed providing EUR 66 361 404 for energy renovation of buildings. All contracts to state the relevant energy efficiency requirement of a minimum reduction of energy consumption for heating by at least 50% compared to the annual energy consumption for heating prior to the renovation for each building (expect for building with a status of a cultural good), which shall deliver an increase of 30% primary energy savings compared to pre-renovation state
INVESTMENT C6.1.R1-I1 – ENERGY RENOVATION OF BUILDINGS				
C6.1 R1-I1.a Energy renovation of buildings – public buildings	94	Q2 2026	10	Energy renovation of at least 288 000 m2 of public buildings in line with the co-financing contracts, achieving a minimum requirement of reducing energy consumption for heating by at least 50% compared to the annual energy consumption for heating prior to the renovation for each building, which shall deliver an increase of 30% primary energy savings compared to the pre-renovation state
C6.1 R1-I1.c. Energy renovation of buildings – multi-dwelling buildings	121.7	Q2 2026	10	Energy renovation of at least 180 000 m2 of multi-dwelling buildings in line with the co-financing contracts, achieving a minimum requirement of reducing energy consumption for heating by at least 50% compared to the annual energy consumption for heating prior to the renovation for each building, which shall deliver an increase of 30% primary energy savings compared to the pre-renovation state
INVESTMENT C6.1.R1-I2 – RENOVATION OF BUILDINGS DAMAGED IN EARTHQUAKES WITH ENERGY RENOVATION				
C6.1 R1-I2.a Renovation of buildings damaged in earthquakes with energy renovation – public buildings	354.8	Q2 2026	10	Energy and post-earthquake renovation of at least 274 000 m2 of public buildings damaged by the earthquakes (in the areas of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County) completed in line with the co-financing contracts, achieving a minimum requirement of reducing energy consumption for heating by at least 50% compared to the annual energy consumption for heating prior to the renovation for each building (except for buildings with a status of a cultural good), which shall deliver an increase of 30% primary energy savings compared to the pre-renovation state
C6.1 R1-I2.b Renovation of buildings damaged in earthquakes with energy renovation – multi-dwelling buildings	245.2	Q2 2026	10	Energy and post-earthquake renovation of at least 45 000 m2 of multi-dwelling buildings damaged by the earthquakes (in the areas of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County) completed in line with the co-financing contracts, achieving a minimum requirement of reducing energy consumption for heating by at least 50% compared to the annual energy consumption for heating prior to the renovation for each building (except for buildings with a status of a cultural good), which shall deliver an increase of 30% primary energy savings compared to the pre-renovation state
INVESTMENT C6.1.R1-I3 – ENERGY RENOVATION OF BUILDINGS WITH THE STATUS OF A CULTURAL GOOD				
C6.1 R1-I3 Energy renovation of buildings with a status of a cultural good	40		10	Energy renovation of at least 31 000 m2 of buildings with the status of cultural goods, achieving on average an increase of 30% primary energy savings, with a minimum requirement of 20% for each building, compared to the pre-renovation state The investment involves the preparation and implementation of open calls for proposals for drafting documentation and carrying out energy renovation works for buildings with the status of a cultural good for public and cultural purposes. The programme covers two categories of buildings: individually protected cultural goods (individual buildings and building assemblies) and buildings located within a protected cultural and historical unit.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
REFORM C6.1 R2 – DEVELOPING A FRAMEWORK FOR ENSURING ADEQUATE SKILLS IN THE CONTEXT OF GREEN JOBS NEEDED FOR POST-EARTHQUAKE RECONSTRUCTION				
Publication of the National Skills Development Plan in the context of green jobs related to energy efficiency and post-earthquake reconstruction	5.3	Q4 2022	3	The publication of the National Skills Development Plan that shall improve the skills of green jobs in the context of energy renovation, post-earthquake renovation, green infrastructure, application of nature-based solutions and circular management of space and building, based on a review of existing programmes and preparation and adaptation of educational programmes defined by the reform.
Completed training and adult education programme for post-earthquake reconstruction and energy renovation		Q2 2026	10	500 persons shall complete adult education programmes for post-earthquake renovation and energy renovation certified by Public Open University Zagreb/Croatia Employment Service/other relevant bodies.
Completed expert studies and education programmes in the field of sustainable urban development and renovation of cultural heritage		Q2 2026	10	50 persons shall complete expert studies and education programmes in the field of sustainable urban development and renovation of cultural heritage, certified by the Faculty of Architecture/Faculty of Forestry/ other relevant bodies.
REFORM C6.1 R3 – EFFICIENCY GAINS, REDUCTION OF ADMINISTRATIVE BURDEN AND DIGITALISATION OF THE RENOVATION PROCESS				
A physical one-stop-shop office for energy renovation and seismic reinforcement set up and operational	4	Q4 2021	1	The physical one-stop-shop office shall be developed and made operational in the earthquake-affected area to reduce the administrative burden for citizens. The investment shall include the adaptation and modernisation of the physical infrastructure at a location where one-stop shop shall be established, investments in online system development and maintenance services, investments in the functionality of the online system, training of staff, training of public authorities involved and promotion activities.
On-line one-stop-shop for energy renovation and seismic reinforcement set up and operational		Q4 2022	3	Putting into operation of an on-line one-stop-shop system bringing together all the necessary information for energy renovation and post-earthquake reconstruction. The one-stop-shop shall be implemented in two phases: (i) emergency services necessary for the urgent structural renovation and necessary restoration of damage in order to ensure a level of safety for citizens and facilities; (ii) integrating all other services and information needed for comprehensive and energy renovation with the services and information included for the 'build back better' concept.
Completed training for public employees for providing one-stop-shop services for energy efficiency and post-earthquake reconstruction		Q2 2026	10	At least 80 public employees trained to provide high-quality services combining energy efficiency and post-earthquake reconstruction. Of that, at least 40 employees of the one-stop-shop to get training on various aspects of reconstruction, especially on the removal of administrative barriers in the implementation of reconstruction activities, and the use of the on-line platform. Another at least 40 employees of implementing public institutions to get training on the administrative and technical aspects of the reconstruction and working on the on-line platform.
REFORM C6.1.R4 – MODERNISATION AND INTEGRATION OF SEISMIC DATA FOR THE RENOVATION PROCESS AND PLANNING OF FUTURE CONSTRUCTION AND MONITORING OF PUBLIC INFRASTRUCTURE				
C6.1 R4 Modernisation and integration of seismic data for the renovation process and planning of future construction and monitoring of public infrastructure	0.7	Q2 2025	8	Complete integration of seismic data (fault maps, seismic area maps, landslide susceptibility maps in appropriate resolutions etc.) into the spatial planning system and application to 10 expert pilot bases for local government units' spatial plans. The results of the analysis of the seismic data may be used in the preparation of amendments to spatial plans or the creation of new spatial plans following the implementation of the reform.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
C6.1. R4-I1 Seismic equipment units procured	10.9	Q4 2022	3	The investment shall strengthen the organisational and infrastructure capacity of the Seismological Survey of the Republic of Croatia through the purchase of at least 300 equipment units in order to increase the quality of the collection, processing and application of the seismic data needed for the renovation process of buildings, planning for the development of new facilities and monitoring of public infrastructure, as well as strengthening Croatia's resilience to earthquakes and associated risks.
C6.1. R4-I1 Hiring and training of Seismological Survey experts		Q2 2026	10	Hiring of 9 additional experts in the Seismological Survey of the Republic of Croatia, whose wages will be financed by the state budget after the expiry of the RRF, and completed training for collecting, processing and analysing of seismic data on the territory of Croatia.
REFORM – C6.1.R6 PILOT PROJECT FOR THE ESTABLISHMENT AND IMPLEMENTATION OF SYSTEMATIC MANAGEMENT ENERGY AND THE DEVELOPMENT OF A NEW FINANCING MODEL				
C6.1 R6 Successfully completed systematic energy management pilot project with the aim to test a new energy efficiency renovation financing model	1.6	Q4 2023	5	Following a public call, the Ministry of Physical Planning, Construction and State Assets in cooperation with Croatian Government Real Estate Agency shall implement a pilot project covering all energy and water consumption sectors in the pilot local government unit by setting up automatic data collection on energy and water consumption in multi-dwelling buildings in the selected pilot area. The objective of the pilot project is to achieve energy and water savings by setting up and implementing systematic energy management and allow for the testing the implementation possibilities of the new financing model for energy renovation of multi-dwelling buildings, including a cost-benefit analysis for its application at the national level. On the basis of the pilot project guidelines on the application of the energy consumption management for multi-dwelling buildings model at national level shall be developed.
Adoption of the guidelines for the application of a model for monitoring energy consumption in multi-dwelling buildings		Q4 2025	9	The Ministry of Physical Planning, Construction and State Assets shall adopt the guidelines for the application of a model for monitoring energy consumption in multi-dwelling buildings, based on the voluntary interest of owners of multi-dwelling buildings.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

CHANCE FOR BUILDINGS

COUNTRY:

CZECHIA

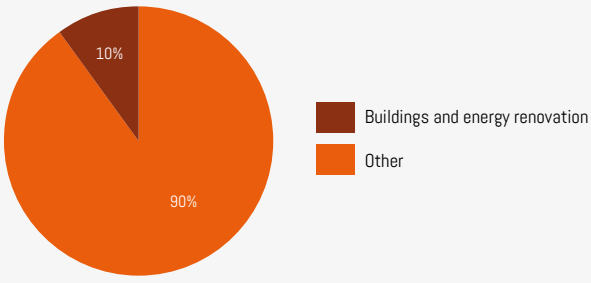
OVERVIEW:

Czechia's Country Profile is based on information provided by Renovate Europe's Czech National Partner: Chance for Buildings. This Country Profile focuses on the buildings elements of the Czech National Recovery and Resilience Plan (NRRP) endorsed by the European Commission in July 2021. The Plan allocates significant funding to energy efficiency improvements and sets clear targets for energy savings to be achieved with this funding. The Plan builds well on the wider programmes already in place. However, it does not go much beyond current efforts and partly replaces existing funding, therefore not adding substantially to the overall investment in renovation. It can benefit from greater clarity on how energy savings will be verified.

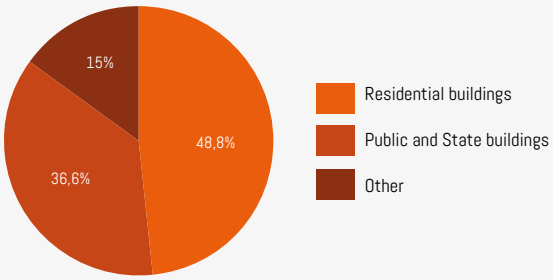
BUILDINGS IN THE CONTEXT OF THE PLAN

Czechia's final NRRP comprises measures worth €7.85bn. A total of €1.14bn (~15%) are allocated to building-related measures, of which €806m for energy renovation of buildings (~10%). The largest share of €393m[1] is allocated to the existing 'New Green Savings' scheme which supports complex renovations of residential buildings. It finances a range of measures targeting deep renovation, including building envelope measures, heat replacement, adaptation, and solar power. A further €295m is allocated for the renovation of public and state buildings. €98m of this is to support project preparation in the public sector (including, but not limited to, building renovation), and almost €20m is for feasibility assessments and awareness-raising, education, training, and advice provision in the fields of energy saving and greenhouse gas reduction. A further €334m will be used to fund another existing scheme – Kotlíkové dotace (boiler subsidies), targeting coal replacement and air quality improvement in single-family homes in rural communities. Both programmes allow gas boilers to be funded – an improvement on coal but incompatible with climate neutrality.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A study for the EC[2] estimates that based on floor area for residential buildings in Czech Republic only 1.6% of renovations were medium depth and 0.1.% deep renovations. Energy renovation in non-residential buildings comprised of only 1.4% medium, and 0.4% deep. Czechia's Long-Term Renovation Strategy (LTRS) sets the increase in the quality and complexity of renovation as the key objective for the residential sector, and increasing the number and complexity of renovation as its objective for the public and business sectors. Technical assistance, national communication campaigns and the use of communication and information centres are flagged as key to overcome barriers.

[1] Exchange rate used: 2021 average to July 12th: CZK 1 = EUR 0.038698

[2] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Czechia's NRRP sets some clear objectives for energy and CO2 savings achieved thanks to the renovation components of the plan. By Q4 2025 the targets are for reduced energy consumption of 0.6 PJ per year for public and state buildings, 4.0PJ per year from energy savings in the residential sector (1.3% of final residential energy consumption in 2018), and 3.2PJ per year from heat source replacement, with 0.36PJ per year realised through support for socially disadvantaged groups. Schemes aim to promote deeper renovation by offering higher subsidies for higher savings. Energy savings of 32.5% are expected in the residential sector. Measurement of realised savings is defined at programme level, but includes energy performance certificates, energy audits, and energy calculations. A mix of energy savings are expected to be realised in the public sector, some above and some below 30% primary energy savings. The NRRP is well integrated with Czechia's LTRS and NECP in providing continuity for key existing programmes, which cover a wide set of building types. Part of the NRRP replaces rather than adding funding, so its overall impact on accelerating rate and depth of renovation remains unclear at this stage. This replacement is a missed opportunity in the residential sector and for the New Green Savings programme.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Czechia's LTRS presents different scenarios. The 'Optimal' (medium ambition) scenario's renovation investment need is estimated at €14bn to 2030, and the 'Hypothetical' (high ambition) would require investments of €23.7bn. This indicates a total investment need of between €4.7 and €9.3bn to 2026. In addition to the €1bn the NRRP allocates to buildings, in the period 2021-2030, Czechia's Modernisation Fund will provide €605m for commercial and public buildings, while Operational Programmes running until 2027 would add at least €470m and €510m respectively. The use of the Just Transition Fund and EU ETS revenues are foreseen in the residential sector. The buildings part of the NRRP does not include loans and other financial instruments. There is no indication in the Plan of using loans for renovation, nor a direct reference to drawing in private finance. All of the Plan's grant funding for buildings will be deployed through existing schemes.

MULTIPLE BENEFITS AND INTEGRATION

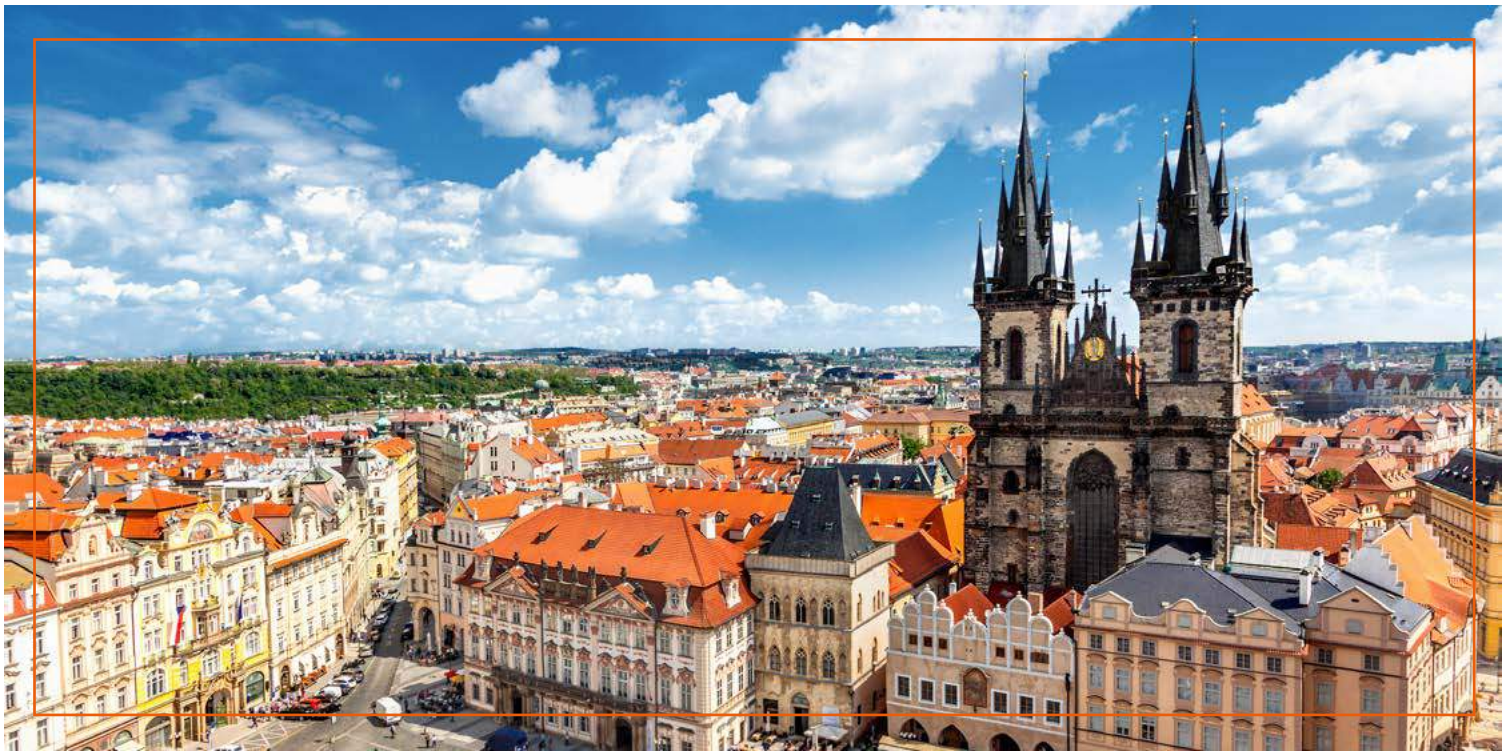
The Plan includes no explicit mention of energy poverty or targeting specific household groups, but it can be assumed that solid fuel (coal) heating replacements will, at least in part, reach low-income households, with a particular focus on air quality improvement in rural areas. The funds allocated to the renovation of government buildings, and in support of project preparation in the public sector, cover building information modelling as well as energy management and therefore can serve to enhance the digitalisation of the renovation process. The NRRP refers to gas as an eligible replacement for coal as a heat source, a potential stumbling block for the energy system transition and wider decarbonisation. The residential programme boosted by the NRRP includes a 'heat bonus', which applies if insulation or solar PV is applied in combination with a boiler replacement. The programme is relatively strong on encouraging the realisation of wider benefits by supporting adaptation (e.g. green roofs, shading) and improvements of indoor environments (e.g. in schools). There is a bonus for environmentally certified materials or savings achieved through Energy Performance Contracts or Performance Design & Build methods. There is no reference to the Energy Efficiency First Principle.

SUPPLY CHAIN AND PROJECT SUPPORT

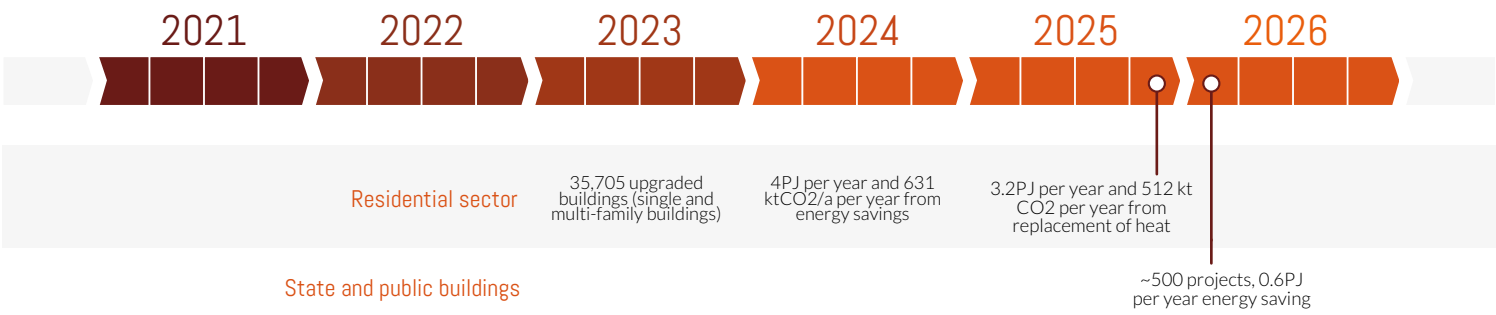
Czechia's NRRP allocates €20m to advisory and project preparation for energy efficiency schemes in the residential sector, and €98m to project preparation in the public sector. Programmes for upskilling of energy and construction professionals are not part of the Plan.

IMPLEMENTATION FRAMEWORK

As the NRRP will fund existing support schemes, relevant monitoring and implementation frameworks are already in place. The Ministry of Environment and its State Environmental Fund are responsible as the managing authority for the 'New Green Savings' scheme covering the residential sector in addition to the Operational Programme Environment's scheme for public buildings, through which the residential sector funding will be channelled. Reporting against NECP targets is led by the Ministry of Industry. Each Ministry has its own mechanisms to collect data, evaluate and report on the programmes. At present, however there are no interim milestones to track for most measures, Operational Programme Environment, has an advisory body, which includes external stakeholders.



TRACKING/ TIMELINE TO 2026 (2030/2050)



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Czechia's NRRP is set to make a clear contribution – up to one fifth – to the country's 2030 renovation investment by maintaining existing programmes. However, a significant part of the investment may go to gas boilers. While this is likely to benefit residents switching from coal, there are likely to be challenges down the line to get buildings on track to climate neutrality. The Plan can enhance the enabling conditions for scaling up the rate of deep renovations to 2030, to align with the high ambition scenario in Czechia's LTRS. This is supported by policy reforms. Further steps should be taken to:

- Consider in more detail how to leverage public investment to attract additional investment from the private sector.
- Articulate skills needs for scaling up the rate and depth of renovation and plan to close the skills gap. Raise awareness towards the public of the need for renovation and the existence of support policies. Check whether existing technical support is sufficient to drive take-up at scale and take action to increase capacity if needed.
- Explicitly mainstream and apply the Energy Efficiency First Principle, including consideration of its impact on heating system replacement schemes.

NOTE

The survey was complemented with a targeted desk-based review of Czechia's Long-term Renovation Strategy (LTRS) to contextualise its NRRP. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the same final draft.

Extracts from Commission Staff Working Document and Council Implementing Decision

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1.6: ACCELERATION AND DIGITALISATION OF THE BUILDING PROCESS **SUBCOMPONENT 1.A Renovation Wave** This component of the Czech recovery and resilience plan contributes to addressing the challenge of the currently lengthy and administratively heavy procedures for obtaining construction permits.				
Reform 1: Implementation of the new construction law and zoning law into practice	36.35	Q3 2021 Q3 2023 Q4 2025		The new construction law that brings acceleration of the building permit process, digitalisation of the process, and a decrease in the number of regulatory authorities shall enter into force. -Creation of new state structure of the Supreme Construction Office, including internal units. Securing financial and IT staffing as well as training of personnel, allowing for proper functioning of the new office. -The average duration of the construction permissions process shall be shortened by at least two years, from 5.5 years to 3.5 years or less, to be confirmed by the national statistical office, based on a new statistic for the average length of the permissions process in 2024- 2025.
Investment 1: Central information system ('AIS')	12.98	Q3 2023		Creation of a new central information system to be used by civil servants of the authorities involved in the construction permissions process.
Investment 2: Development and use of the public administration's data in spatial planning	0.97	Q4 2024		Transfer of database of spatial analytical documentation and validation of the protocol. The validation tool shall be included inside the National Geoportal for Area Planning, where spatial analytical documentation shall be uploaded.
Investment 3: Reaping the full benefits of digitising building control	6.49	Q4 2024		Three IT systems shall be put in operation which allow for interlinking all databases used in the construction permissions process: • a system linking technical norms with implementing regulations, It shall be integrated into the Building Developer Portal and made accessible to the public. • a system for structured requirements about buildings and procedures, validation and control of permit process including ontology • a system for management of data standards of buildings.
COMPONENT 2.1: SUSTAINABLE TRANSPORT				
Investment 3: Support for railway infrastructure		Q4 2023		over 39 station buildings with reduced energy intensity to achieve, on average, at least a 30% reduction of direct and indirect greenhouse gas emissions compared to the ex-ante emissions, and increased comfort and better services for passengers by 31 December 2023.
COMPONENT 2.2: REDUCING ENERGY CONSUMPTION IN THE PUBLIC SECTOR This component of the Czech recovery and resilience plan addresses the challenge of energy efficiency in the public sector by means of renovation of state and public buildings and the modernisation of public lighting.				
2.2.1 Implementation of energy-saving measures in the renovation of state buildings	113.62	Q4 2021	1	A model contract for the Energy Performance Contracting method services with a guarantee is adopted by the Ministry of Industry and Trade in order to promote the implementation of projects with an emphasis on maximizing the yield of energy savings compared to the funds spent. The model contract shall be published on the Ministry's website.
		Q4 2023	4	In total at least 100 building renovation projects shall be supported under this measure. The target shall be achieved upon contracting 75% of them. Projects shall be submitted to the MIT within continuous call and evaluated based on the established criteria, following a transparent selection procedure. Only projects that achieve, on average, a reduction in primary energy consumption of at least 30 % or a reduction in CO2 emissions of 30 % shall be chosen for implementation. The 75 % target refers to projects with a grant agreement signed. Investments into boiler replacements including those with natural gas as an energy source shall be limited to maximum 20 % of the overall allocation.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
		Q1 2026	9	The target shall be achieved upon reducing energy consumption in state buildings by 216 TJ/per year by 31 March 2026 as an outcome of the renovation of buildings, which shall be demonstrated through energy performance certificates. Energy consumption shall be reduced in comparison to the business-as-usual scenario (that is the absence of support under Regulation (EU) 2021/241). Amount of saved energy is to be determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption.
2.2.2 Implementation of energy-saving measures to renovate public lighting systems	81.97	Q4 2021	1	Programme documentation is prepared by the Ministry of Industry and Trade and published on the Ministry's website. It shall establish the timetable and the conditions for support of the measures to renovate public lighting systems, including the smart elements, in view of the objective of achieving at least 30% primary energy savings.
		Q4 2024	6	In total at least 2000 projects of renovation of public lightning systems shall be supported under this measure. The target shall be achieved upon contracting 80 % of them (namely 1600) by 31 December 2024. Projects shall be evaluated and selected every year, based on the established criteria, following a transparent selection procedure. Only projects that achieve, on average, a reduction in primary energy consumption of at least 30 % or a reduction in CO2 emissions of 30% shall be chosen for implementation. The 80 % target refers to projects with a grant agreement signed.
		Q1 2026	9	The target shall be achieved upon reducing energy consumption by 286 TJ/per year by 31 March 2026 as an outcome of the reconstruction of public lighting, which shall be demonstrated through energy performance certificates. Energy consumption shall be reduced in comparison to the business-as-usual scenario (that is the absence of support under Regulation (EU) 2021/241). Amount of saved energy is to be determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption.
2.2.3 Implementation of energy-saving measures in the renovation of public buildings	129.02	Q4 2023	4	In total at least 400 building renovation projects shall be supported under this measure. The target shall be achieved upon contracting 75 % of them. Projects shall be submitted to the MIT within continuous call and evaluated based on the established criteria, following a transparent selection procedure. Only projects that achieve, on average, a reduction in primary energy consumption of at least 30 % or a reduction in CO2 emissions of 30% shall be chosen for implementation. The 75 % target refers to projects with a grant agreement signed. Investments into boiler replacements including those with natural gas as an energy source shall be limited to maximum 20 % of the overall allocation.
		Q1 2026	9	The target shall be achieved upon reducing energy consumption in state buildings by 390 TJ /per yearby 31 March 2026, as an outcome of the renovation of buildings, which shall be demonstrated through energy performance certificates. Energy consumption shall be reduced in comparison to the business-as-usual scenario (that is the absence of support under Regulation (EU) 2021/241). Amount of saved energy is to be determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 2.5: BUILDING RENOVATION AND AIR PROTECTIONSUBCOMPONENT 4.B Resilient municipalities This component of the Czech recovery and resilience plan contributes to addressing the challenges of reducing energy and water consumption in residential buildings, improving quality of living in these buildings, reducing emissions of greenhouse gases and other pollutants by replacing solid fuel-fired boilers, adapting residential buildings to the effects of climate change, constructing new buildings, as well as awareness-raising regarding energy savings, the use of renewable energy sources and adaptation to climate change in the residential sector. The component shall be implemented under the New Green Savings (NGS) 2030 support programme.				
2.5.1 Reform 1: Renovation wave in the household sector		Q4 2025		This measure aims at supporting the implementation of energy efficiency improvements in residential buildings, including the optimisation of such support and the introduction of a qualitatively new level of project preparation. The measure shall also raise awareness of the possibilities to reduce energy needs and gradually change the behaviour of energy consumers. The reform shall be achieved through the following actions: • The New Green Savings 2030 programme shall be upgraded by optimising the setting of support conditions, by increasing the requirements for medium-scale renovations (saving 30 % of primary energy consumption), by increasing the emphasis on complex energy renovations, by reinforcing support for the construction of new houses with higher energy efficiency standards, and by supporting efficient water management. • A two-stage pre-project preparation shall be introduced for households: a basic assessment of renovation options, alternatives, investment intensity, energy cost savings, the possible level of subsidy from the New Green Savings (first stage) and an overview of possible measures to renovate houses and use renewable energy sources in them, including an assessment of the economic efficiency and feasibility of these measures (second stage). The two-stage pre-project support shall significantly improve investment support, especially for lower income households. • The energy consultation centres of the National Network of Local Action Groups shall be integrated in the network of local energy agencies, an energy advisory system composed of the Energy Consultation and Information Centres and individual Local Action Groups. • The support for training and retraining of workers deploying green construction, green technologies or materials under the State programme for supporting energy savings (EFEKT) shall be strengthened and expanded to foster the quality preparation and implementation of energy-saving projects. • The existing system of environmental education and awareness-raising in eco-centres targeted at children and young people shall be extended to the entire general public and shall have a significant new focus on energy saving, use of renewable energy sources, climate change and adaptation to climate change. The reform shall be implemented by 31 December 2025. A timetable for the implementation of measures included in the approved air quality plans focused on the agglomerations with the highest levels of exceedances shall be elaborated and their implementation shall start by 30 June 2022.
Reform 2: Support for energy communities		Q4 2025		This measure aims at establishing 'energy communities' involving residential and entrepreneurial sector actively in renewable energy use as well as awareness-raising and training focused on developing community-based energy. Advisory services on the installation of new renewable energy sources in a way as to eliminate obstacles to their future integration in the wider energy community, smaller common multi-home energy storage sites, the creation of energy communities within individual multifamily buildings and other investment measures linked to energy communities shall be introduced in each region of Czechia by the regional office of the State Environment Fund. The establishment of 120 energy communities as well as awarenessraising and education focused on developing energy communities shall be supported by advisory services of the State Environment Fund.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment 1: Support for the renovation and revitalisation of buildings in the housing sector	332.17		6/8	This measure aims at saving energy in residential buildings, constructing new residential buildings that exceed mandatory energy standards, replacing non-compliant combustion sources in households using solid fuels with gas condensing boilers of energy class A, using renewable energy sources as part of comprehensive energy renovation of buildings, and adapting to climate change, including water management. Smart energy solutions at the level of individual households, houses or small groups of houses such as smart meters, common energy storage sites and demand aggregation shall be promoted. The cost of installing gas-condensing boilers shall represent a maximum of 20 % of the overall renovation programme cost and be installed in order to replace solid-fuel-based boilers. The energy efficiency scheme shall incentivise beneficiaries to install new gas-fired boilers and to adopt other energy efficiency measures as well. The renovation programme shall lead, on average, to a 30% reduction in the Primary Energy Demand of the buildings renovated. A maximum of 10 % of the total allocation of this measure shall support the construction of new buildings. The new buildings supported shall have a Primary Energy Demand hat is at least 20 % lower than the Near Zero Energy Buildings requirement. At least 70 % of non-hazardous construction and demolition waste shall be prepared for reuse or recycling. EU Level(s) indicators shall be used to assess and report on the sustainability performance of buildings, throughout the full life cycle of buildings. Vulnerable energy consumers shall be also supported. The investment shall be implemented through the following projects: • Projects for reduction of energy consumption by 1 200 TJ/year contracted between 1 February 2020 and 30 September 2021. • Reduction of energy consumption by 4 021 TJ/year and reduction of CO2 emissions by 631 kt/year between 1 February 2020 and 31 December 2025.
Investment 3: Pre-project preparation and awareness-raising		Q4 2025	8	This measure aims at supporting the pre-project preparation of energy-saving renovations, heat exchanges for more energy-efficient energy and in particular, automation in the management of energy consumption in the housing sector, including education and training in these areas. 4 970 projects, including 120 community energy project preparation projects, 3 600 project preparation studies for family houses, 1 200 project preparation studies for apartment buildings and 50 projects of Energy Consultation and Information Centres shall be completed. The investment shall be implemented by 31 December 2025.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 2.8: BROWNFIELDS REVITALISATION This component of the Czech recovery and resilience plan contributes to addressing the challenge of supporting revitalisation of former industrial or unused sites in urban areas (henceforth brownfield sites) with the ultimate goals to: • improve energy efficiency of renovated or reconstructed buildings; • construct new energy-efficient buildings, where renovation would neither be possible nor efficient; • create natural carbon sinks. The component shall initiate comprehensive site conversions and enhance the ecological stability of the landscape by creating new green areas without affecting agricultural land.				
2.8.1 Investment 1: Investment aid for regeneration of specific brownfield sites	23.96 + 55.85		4/8	The investment shall support 14 brownfield regeneration projects aimed at preparing areas for further multifunctional use (including refurbishment and construction of infrastructure or demolition of buildings). Specific brownfield sites have been identified by the Ministry of Regional Development in cooperation with CzechInvest, the investment and business development agency of Czechia subordinate to the Ministry of Industry and Trade, based on the size of the site, the expected size of the investment and the alignment of the project with Europe's green transition ambitions.
		Q4 2023		Announcement of a subsidy program for specific brownfield site regeneration (project preparation, land preparation, investment projects) following the preparation of a subsidy program, which requires formal approval by the Ministry of Finance. The projects shall both be aimed at supporting demolition and energy-efficient construction as well as energy-efficient renovation. Concerning energy-efficient construction, the calls shall specify that the new buildings supported by the projects shall have a Primary Energy Demand (PED) that is at least 20 % lower than the NZEB requirement. After evaluating the call, there shall be a list of recommended projects for support. Projects shall be pre-selected and recommended by regional permanent conferences. Every region shall recommend at least one project to be supported. At least one industrial site shall be supported in each region of Czechia, with the list of supported brownfields including the sites of Terezin and Josefov. Formal control of the projects shall be taken by the State Investment Fund.
		Q4 2025		30 % of the investment under this measure shall be aimed at supporting demolition and energy-efficient construction, and 70 % shall be aimed at supporting energy-efficient renovation of buildings on brownfield sites. As to the funding of demolition and energy-efficient construction, it shall be ensured that the supported projects are such that (i) new buildings shall have a Primary Energy Demand (PED) that is at least 20 % lower than the NZEB requirement; (ii) deep renovation is not possible due to technical, health/safety or fit-for-purpose reasons; (iii) a maximum of 5 % new land shall be used at the place where the former building was located. This excludes the possibility of demolishing buildings in one place and constructing a building on another site instead. Concerning the support of renovation activities, it shall be ensured that at least 90% of the costs shall support energy-efficiency renovations. The total budget executed for this purpose over the duration of the measure shall amount to at least EUR 79 000 000.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
2.8.2 Investment 2: Investment aid for the regeneration of brownfield sites owned by municipalities and regions for non-business use	25.14		4/8	The investment shall support the regeneration of 45 brownfield sites owned by local and regional authorities that shall be turned into an amenity or a public institution, such as a school, a cultural centre, a sports ground, a municipal authority or a publicly accessible park. Support shall exclusively be given to projects that commit either to energy-efficient renovation or the creation of natural carbon sinks, including the creation of permanent grassland or the planting of trees.
		Q4 2023		Announcement of calls for regeneration of publicly owned brownfields following the preparation of a subsidy program, which requires formal approval by the Ministry of Finance. The projects shall both support energy-efficient renovation and measures aimed at turning industrial sites and contaminated land into a natural carbon sink. Projects shall be contracted in two phases: first, by 31 December 2022, at least 35 projects shall be contracted. Second, by 31 December 2023, at least 10 additional projects shall be contracted.
		Q4 2025		94 000m2 revitalised buildings 80 % of the investment shall support energy-efficient renovation, and 20 % shall be aimed at measures aimed at turning industrial sites and contaminated land into a natural carbon sink.
2.8.3 Investment 3: Investment aid for the regeneration of brownfield sites owned by municipalities and regions for business use	5.89 + 13.75		4/8	The investment shall help revitalise brownfield degraded sites, including the removal of small-scale obstacles on the surface, owned by municipalities in particular for business use and, to a limited extent, for non-business use. These obstacles refer to parts of constructions marked as hazardous waste, such as asbestos-containing materials, or small oil leaks. A particular emphasis shall be placed on strict adherence to the principles of blue-green infrastructure and energy efficiency, implying that preference shall be given to projects implementing rainwater management pursuant to Act 254/2001 ("Water Act") and, in case of new buildings, energy savings measures beyond the legislative requirements of Act 406/2000 ("Energy Management Act"). Regenerated sites shall be used preferably by small- and medium sized enterprises and local firms. The investment shall support projects to revitalise brownfield sites for business use corresponding to the target of at least 76000 m3 of built-up space. The investment shall be completed by 31 December 2025.
		Q4 2023		Announcement of calls for regeneration of publicly owned brownfields following the preparation of a subsidy program. The projects shall both be aimed at supporting demolition and energy-efficient construction as well as energy-efficient renovation. Concerning energy-efficient construction, the calls shall specify that the supported projects are such that new buildings shall have a Primary Energy Demand (PED) that is at least 20 % lower than the NZEB requirement. Overall, at least 20 projects shall be completed.Projects shall be contracted in two phases: first, by 31 December 2022, at least 15 projects shall be contracted. Second, by 31 December 2023, at least 5 additional projects shall be contracted.
		Q4 2025		30 % of the investment under this measure shall be aimed at supporting demolition and energy-efficient construction, and 70 % shall be aimed at supporting energy-efficient renovation of buildings on brownfield sites. As to the funding of demolition and energy-efficient construction, it shall be ensured that the supported projects are such that (i) new buildings shall have a Primary Energy Demand (PED) that is at least 20 % lower than the NZEB requirement; (ii) deep renovation is not possible due to technical, health/safety or fit-for-purpose reasons; (iii) a maximum of 5 % new land shall be used at the place where the former building was located. This excludes the possibility of demolishing buildings in one place and constructing another building on another site instead. Concerning the support of renovation activities, it shall be ensured that at least 90 % of the costs shall support energy-efficiency renovations. The supervisory company of the grant provider (Ministry of Industry and Trade) shall carry out an on-site inspection of the work performed and compliance with project documentation and the calls for tender.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 3.3: MODERNISATION OF EMPLOYMENT SERVICES AND LABOUR MARKET DEVELOPMENT This component of the Czech recovery and resilience plan contributes to addressing several challenges in the area of labour market and social care. First, it aims at increasing the adaptability of the labour force by developing its skills, in particular in the digital field. Second, it aims at tackling persistent gender inequalities in the labour market, in particular the low labour market participation of women with small children. Third, the component aims at modernising and expanding social services in compliance with the principles of deinstitutionalisation and independent living				
3.3.2 Investment 2: Increasing the capacity of childcare facilities				The investment aims at increasing the availability of childcare services for children under the age of three. This shall help address the low labour market participation of women with small children and reduce the persistent gender inequalities in the labour market, which translate into a high gender employment gap, pay gap and pension gap. The investment also aims at increasing access to childcare for families with lower incomes who cannot afford the existing childcare services, which further exacerbates the risk of social exclusion and weak educational outcomes of their children. It is expected that the investment shall increase the number of child groups and nurseries by 40%.
	50.35	Q4 2025	8	Of the overall objective to refurbish 370 facilities, at least 333 shall be refurbished, to comply with the new technical standards set by the amendment of ct No 247/2014 on the provision of childcare services in a child group (Child Group Act) or to expand capacity.
	60.42	Q4 2025	8	Of the overall objective to establish 435 new nurseries, at least 391 shall be created, by constructing new buildings and by renovating existing buildings. The investment includes the use of grant support as follows: • At least 98 shall be new constructions with primary energy demand at least 20% below the nearly zero-energy buildings requirement. • At least 176 shall be renovations achieving on average either at least 30% primary energy savings or at least 30% reduction of direct and indirect greenhouse gas emissions. • At least 117 shall be other energy efficiency renovations.
	90.53	Q4 2025	8	Creation of at least 7430 new places in pre-school facilities for children below the age of three. These facilities shall be distinct from the facilities financed from other Union funding programmes.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

SYNERGI

COUNTRY:

DENMARK

OVERVIEW:

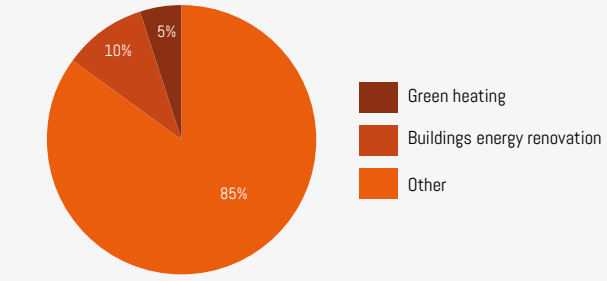
Denmark's Country Profile is based on information provided by Renovate Europe's Danish National Partner: SYNERGI. This Country Profile focuses on buildings elements of Denmark's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.

The Plan allocates a substantial share of its funding to energy efficiency improvements. It can benefit from setting clear milestones, strengthening delivery through further supply chain and project support, better integration with buildings strategy and other national priorities.

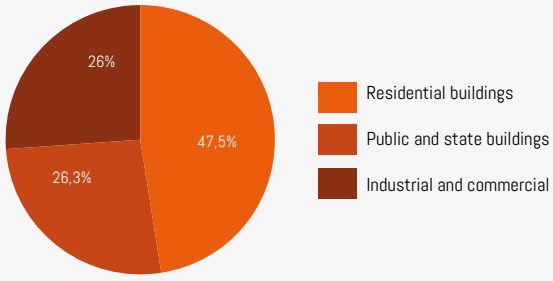
BUILDINGS IN THE CONTEXT OF THE PLAN

Denmark's draft NRRP comprises measures worth €1.6bn. It allocates €247m (15%) to energy efficiency and green heating. €160m (10%) in the Plan is intended for energy efficiency improvements: €76m for energy efficiency in households, and €42m each for energy renovations of public buildings and energy efficiency in industry. €87m is programmed for replacing oil and gas boilers with heat pumps or district heating. Measures are scaling up existing schemes, with the exception of the energy efficiency in public buildings scheme, which is new.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A study for the EC[1] estimates that for residential buildings in Denmark based on floor area only 0.6% were medium depth and a negligible amount were deep renovations. Energy renovation in non-residential buildings was estimated to include only 1.2% medium, and 0.2% deep renovations.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The energy efficiency component of the Plan aims to deliver at least 6,125 energy renovation projects in private households; improve the energy rating for 40% of supported municipal and regional public buildings with a current D to G rating; save at least 0.33 MtCO2e through industrial energy efficiency improvements; and replace at least 10,100 residential oil or gas boilers with district heating or heat pumps. The subsidy schemes include a list of specific technologies eligible for grants but do not include metrics to measure the depth of renovation achieved even though 30% primary energy savings are expected. Aside from the public buildings programme, due to the subsidy scheme structure, Denmark's NRRP does not encourage 'whole building' renovation projects. Instead, it adds funding to existing programmes that focus on specific elements.

FINANCIAL LANDSCAPE AND PERSPECTIVE

According to Denmark's Long Term Renovation Strategy (LTRS), the estimated investment needed for renovation in the period 2021-2050 is between €5.5 and €10.2bn. For industry and households, the NRRP significantly tops up existing funded energy efficiency programmes. The public buildings programme is new, and offers grants distributed on a first-come, first-served basis. For industry, grants are competitively allocated to projects with the highest savings potential per €. For housing, subsidy rates are set at a maximum 27.5% of estimated market prices. The Plan takes funding from other EU sources into consideration, in order to ensure complementarity and to avoid double funding. It does not set out expectations for attracting further private finance and investment.

MULTIPLE BENEFITS AND INTEGRATION

The instruments target buildings and citizens across Denmark and do not specifically target energy poor or low-income households. The NRRP includes two subsidy schemes that target the replacement of fossil heating systems with heat pumps. The NRRP does not mention the Energy Efficiency First Principle, although energy efficiency is usually prioritised in practice. Most oil boilers are located in rural areas and small towns with overrepresentation of low-income households and low property values, so the oil and gas boiler replacement programme may benefit those groups. Denmark's Plan has a dedicated section on digitalisation, although it does not explicitly mention any sectoral investments linked to buildings, with funding for information and data initiatives planned as part of other programmes. The plan does not explicitly make links to wider renovation objectives (e.g. adaptation, seismic risk, circular materials).

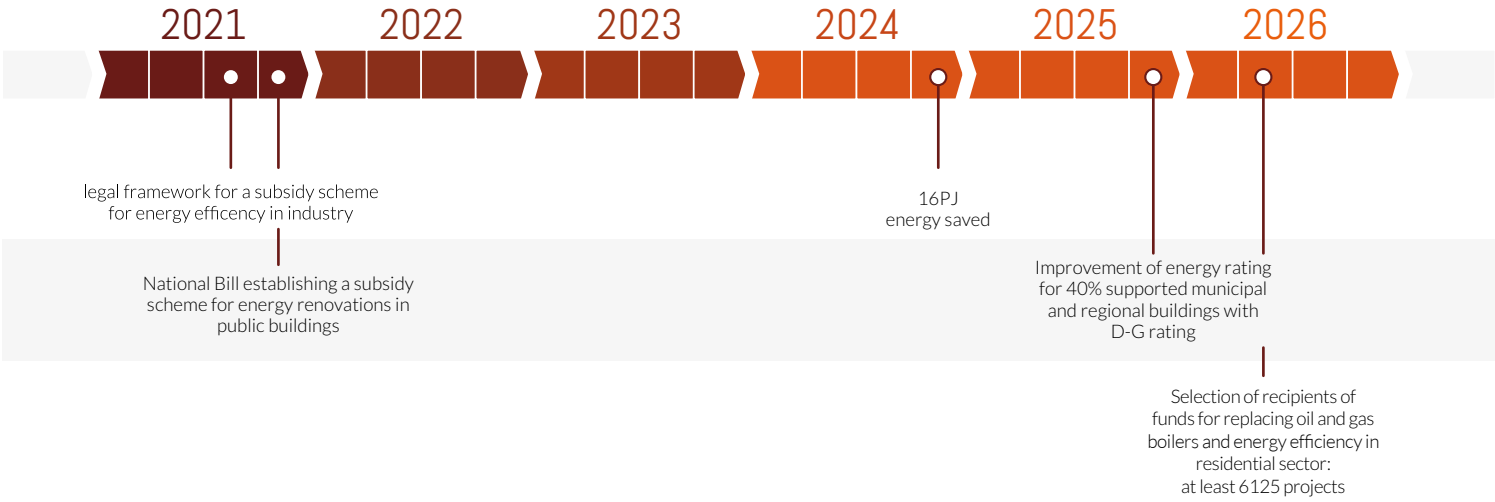
SUPPLY CHAIN AND PROJECT SUPPORT

The NRRP does not set out specific additional support for technical assistance or information campaigns linked to energy renovation. Private and existing public initiatives already exist, including a Danish Knowledge Centre for Energy Savings in Buildings established by the Danish Energy Agency to collate and disseminate information for contractors and educational institutions. The NRRP highlights that its construction projects potentially support SMEs and local jobs. However, it does not include any additional funding or support for further upskilling or training programmes for building energy professionals.

IMPLEMENTATION FRAMEWORK

The NRRP was co-developed by the Danish Government and stakeholders from 13 Climate Partnerships with the Danish business community, which were initiated to help Denmark reach its goal of reducing the greenhouse gas emissions by 70 per cent by 2030 (compared to 1990). Overall, the NRRP contains 39 milestones and 38 targets. For the energy renovation component of the plan targets are set for the entry into force and end of the respective programme, with no intermediate milestones. The Ministry of Climate, Energy and Utilities is responsible for energy efficiency programme implementation which supports the Plans' coherence with national strategies in its remit. The Ministry of Finance is tasked with overall compliance and monitoring of milestones and targets and provides competent authorities with technical assistance.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Denmark's NRRP makes a relatively modest contribution to its already substantial energy efficiency and buildings decarbonisation programmes and introduces a new public sector buildings renovation programme. To build on this and go further, steps could be taken to:

- Clarify the rate and depth of renovation that Denmark needs to achieve by 2030, and how the Plan and existing programmes contribute to this.
- Set intermediate milestones and delivery targets and clarify how progress will be monitored.
- Monitor impact of existing technical support and information provision resources on uptake and increase capacity if needed, to focus on deep and complex energy renovations.

NOTE

The survey was complemented with a targeted desk-based review of Denmark's Long-term Renovation Strategy (LTRS) to place its NRRP in context.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Danish NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 3: ENERGY EFFICIENCY, GREEN HEATING AND CARBON CAPTURE AND STORAGE The objectives of this component shall be to provide stimulus and investments in energy efficiency measures to support the green transition, strengthen local job creation and ensure coherence and resilience by renovation of the existing building stock. Investments and subsidy schemes in this component shall include energy efficiency measures, conversion of oil and gas burners to sustainable heating sources and renovation of households, industries and public buildings. These shall reduce energy consumption and greenhouse gas emissions. Investing in energy efficiency measures and the renovation of buildings shall support the construction sector and subcontractors creating jobs in supported businesses. The component contains subsidy schemes targeted at both public sector buildings with poor energy labels and energy efficiency measures in the industrial sector are expected to support the economic recovery across Denmark. This component shall also promote improvement of public buildings such as day care institutions, and schools. A sub-measure is particularly relevant for households with limited financing opportunities, amongst others. These measures shall support social coherence and resilience by ensuring facilities to deliver high quality public services.				
Investment 1: Replacing Oil Burners and Gas Furnaces The measure aims at phasing oil and natural gas out of the heating system and replaced with electric heat pumps and district heating from renewable sources. The measure shall consist in the provision of subsidies to speed up the phasing out of oil burners and gas furnaces and to reduce the cost to consumers of the conversion to green heating. The support provided by the Danish recovery and resilience plan shall scale up an existing measure. The support scheme for replacing oil burners and gas furnaces shall be distributed into the following three sub-schemes: (1) Sub-scheme for district heating ("Fjernvarmepuljen"): shall provide a subsidy to expand district heating grids into new areas; (2) Sub-scheme for decoupling ("Afkoblingsordningen"): the Danish state-owned gas distribution company charges a fee to cover the cost of decoupling. With this subsidy scheme, households may be exempted from this fee. (3) Sub-scheme for scrapping ("Skrotningsordningen"): shall provide a subsidy for companies that offer heat pumps on subscription for private year-round housing. The scheme is particularly relevant for citizens who wish to convert to a heat pump but who have limited financing opportunities.				
	65	Q2 2021 Q1 2025 Q2 2026	1 / 5/ 6	By Q2 2021, the political agreement shall be reached on how DKK 645 000 000 is to be distributed among the support schemes to phase out oil burners and gas furnaces that originates from "Energiaftale 2018" and "Klimaaftale for energi og industri mv. 2020". The measure shall achieve at least a 30% reduction in primary energy demand at the level of the building. By Q1 2025, when the selection of applications for replacing oil burners and gas furnaces will have been completed. By Q2 2026, at least 10.100 oil burners and gas furnaces will have been replaced with heat pumps or district heating.
Investment 3: Energy renovations in public buildings The measure shall support a subsidy scheme that shall target energy savings actions in public buildings. The subsidy shall focus on energy renovations in regional and municipal buildings with the lowest energy performance certificate standards as well as buildings that are heated by oil burners and gas furnaces.				
	40	Q4 2021/ Q4 2025	1/5	By Q4 2021, the government has published the statutory order. This legal framework shall define the conditions for receiving funding under the subsidy scheme for energy renovations in public buildings, such as maximum grant size or target group. By Q4 2025, the energy performance certificate of the buildings shall be improved for 40% of the buildings in the least efficient end (D-G) receiving grants from the scheme. All else being equal, this corresponds to 10 pct. of municipal and regional buildings having their energy rating improved if there is full disbursement of the scheme.
Investment 4: Energy Efficiency in Households The objective of this measure is to ensure that residential buildings are renovated and energy efficient and to speed up transition from oil burners and gas furnaces to heat pumps. The measure shall target energy savings in private housing by supporting insulation, optimization of the operation of the building or replacement of heating by oil burners and gas furnaces with heat pumps.				
	63	Q1 2025/ Q2 2026	5/6	By Q1 2025, the managing entity will have selected the beneficiaries. The Building Pool shall be split into several yearly application rounds to support a broad distribution of funds among private house owners. The opening of the application rounds shall be announced on the website of the Danish Energy Agency. The subsidy receiver has two years to carry out the energy renovation project, at the completion of which the subsidy is paid out. This shall be to ensure that the funds shall only be allocated for concrete energy renovations. In the Building Pool there is a 60/40 condition on the allocation of the subsidy pool stating that at least 60 per cent of the funds must be allocated to projects containing conversion to electric heat pumps. The measure shall achieve at least a 30% reduction in primary energy demand. By Q2 2026, at least 6.125 energy renovation projects will have been completed.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

Le Mur Manteau

RENOVONS

COUNTRY:

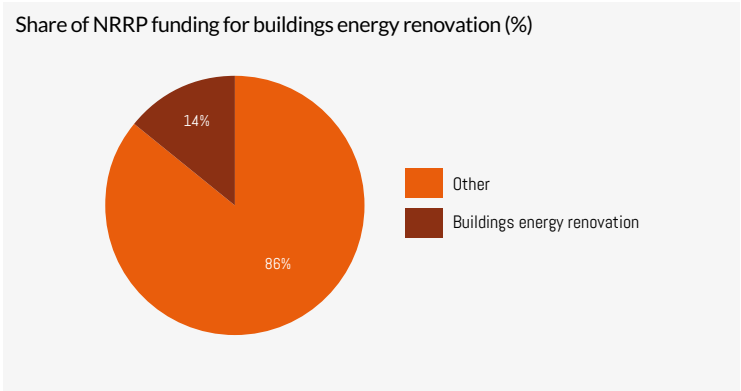
FRANCE

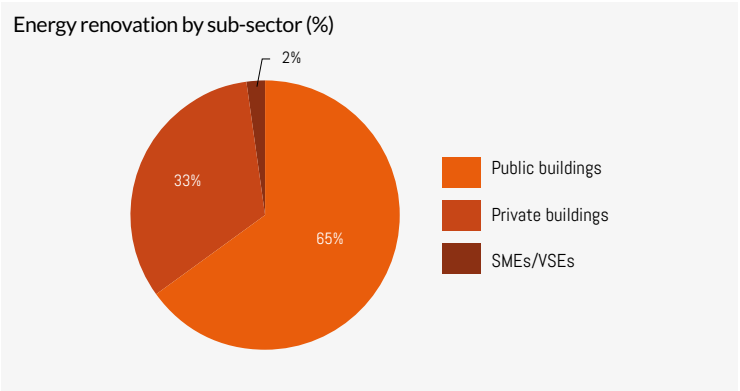
OVERVIEW:

France's Country Profile is based on information provided by the French association Mur Manteau and the Rénovons. The Country Profile focuses on the buildings elements of France's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021 The NRRP allocates significant funding to energy efficiency improvements. It can benefit from strengthening delivery through further supply chain and project support and strengthening requirements for deeper renovations. The NRRP is not sufficient to reach stated goals and will be completed by the low carbon 2050 strategy with clear goals and actions as well as with the Loi Climat et Résilience which has just been voted into law.

BUILDINGS IN THE CONTEXT OF THE PLAN

The NRRP builds on 'France Relance', a large €93.4bn recovery package drawing on funding from both the domestic and EU budgets presented in September 2020. Around 42% of 'France Relance' funding (€39.4bn) is included in the NRRP. A total of €6.7bn are allocated to building renovation within the "France Relance" package (7.2%), of which €5.8 bn is financed through the NRRP (14% of NRRP funding). The largest amount allocated is to schools & public administration (€4 bn, of which €3.8bn NRRP), followed by private housing (€2bn, of which €1.4bn NRRP), social housing (€0.5bn, all NRRP) and businesses (€0.2bn, of which €0.12bn NRRP). Further measures to support cultural sectors and heritage renovation (€0.08bn), and medico-social establishments ('PAI immobilier' or Real Estate Investment Support Plan part, €1.3bn) are included in other parts of the Plan where the primary objective is not energy renovation.





National Challenges

A study for the EC[1] estimates that based on floor area only 1% of residential sector renovations were of medium depth and 0.2% deep renovations. Only 1.4% of energy renovation in non-residential buildings were medium, and 0.2% deep. Rénovons highlights the fragmentation of the funding landscape and the complexity of navigating different funding schemes, as some of the key challenges for accelerating the depth of renovation in France. Upskilling and attracting sufficient labour force are also an obstacle.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Delivery targets are set in terms of number of renovated properties for private and social housing sectors, and public sector buildings. All measures, apart from those for SMEs, are tagged as contributing 100% towards the target of 37% climate funding and should therefore deliver at least 30% energy savings. There is, however, no clarity on the metrics used to monitor achieved depth of renovation, and no quantification of the total energy savings or emission reduction that the Plan aims to achieve; although France's LTRS targets are mentioned. The flagship initiative in the private sector MaPrimeRénov' programme is open to all co-owners and landlords regardless of income, with varying degrees of aid intensity. An additional one-off payment is available to some dwellings with co-ownerships if projects achieve at least 35% energy savings. Bonuses are also available for deeper renovations with energy gains of at least 55%, or focus on 'energy sieves' (labels F and G), or if they reach the most efficient labels (A or B). In the public sector, by far the largest renovation component, projects across state-owned and-local authority buildings would be selected based on economic impact (i.e. rapid delivery) and energy and environmental impact. For SMEs, the targets relate to the number of companies benefiting from energy renovation tax credits and/or receiving support with applications.

FINANCIAL LANDSCAPE AND PERSPECTIVE

France's National Energy and Climate Plans estimates the investment need for buildings at €15-25 billion annually for the period 2019-2032. The measure of green budgeting will be generalised from the 2021 budgetary plan onwards to monitor the impact of the NRRP on climate and the environment. The Plan does not draw clear links or distinctions to other sources of public funding. For the buildings sector focus is on grant funding rather than financial instruments to leverage private finance. The intervention for very small and small and medium enterprises however is based on a tax credit mechanism charged against income or corporate tax. It is capped at €25,000 per undertaking.

MULTIPLE BENEFITS AND INTEGRATION

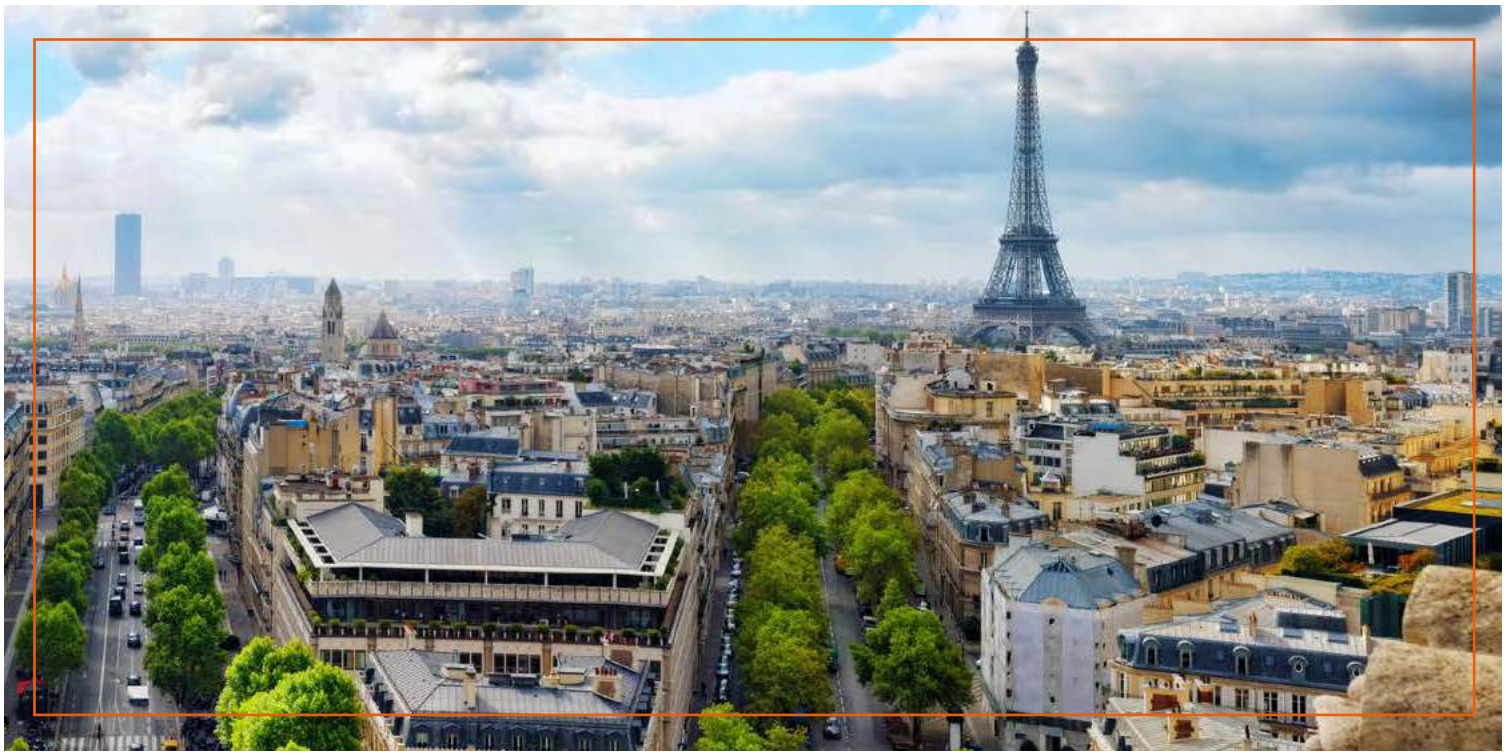
The plan aims at addressing **energy poverty** through the renovation of social housing and higher aid intensity for low-income households. Separate policies in place encourage heat decarbonisation, with plans to ban the installation of oil-fired boilers (fuels with GHG emissions greater than or equal to 250 gCO2eq/kWh PCI) initially in new buildings and later in existing ones. **Heat decarbonisation measures** like heat pumps installations are also financeable under the MaPrimeRénov' programme, however, there are no requirements to apply the Energy Efficiency First Principle, and energy renovation is not directly linked to trigger points such as boiler replacement. There are **no specific digitalisation** measures for the buildings sector within the Plan (e.g. investment in smart systems, improvement in buildings stock data collection and repositories, or building renovation passports). Renovations also partially support the realisation of **wider benefits** – e.g. higher support available for condominiums qualified as "fragile" or located in urban areas under renewal, or improvements in accessibility for medico-social establishments. Climate change adaptation, use of sustainable resources for construction or circularity are not systemically addressed.

SUPPLY CHAIN AND PROJECT SUPPORT

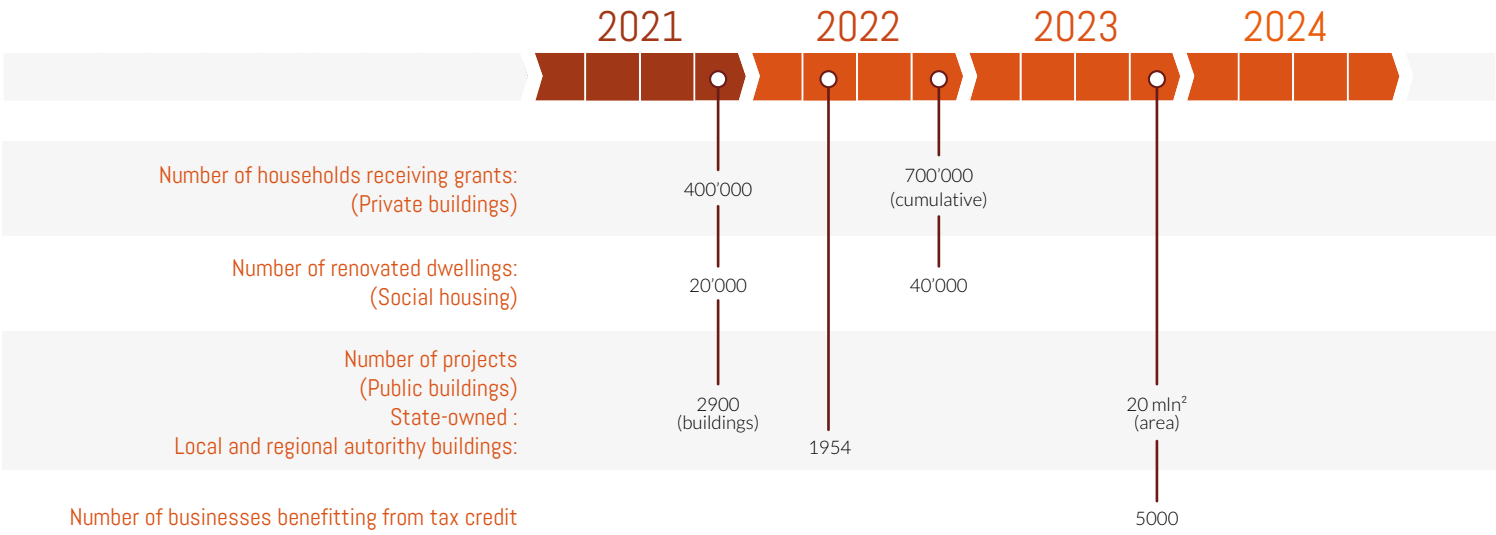
The upskilling of energy and construction professionals and the potential to encourage digitalisation tools in buildings are not directly addressed within the NRRP. Limited funding is provided for technical assistance for households who require support from a consultant or project management support to carry out energy renovation work (envisaged as flat rate grant of €150). Other technical assistance measures (e.g. one-stop-shops) are not foreseen, although some are already supported through other programmes – e.g. Public Service for Housing Energy Performance, with further measures under discussion at national level.

IMPLEMENTATION FRAMEWORK

The Minister of Economy, Finance and Recovery (MEFR) and the "Secrétariat Général France Relance" attached to the Prime Minister have overall responsibility for monitoring the Plan. National budget and audit systems would be used to audit the Plan although a tailored strategy is still to be developed. The ministry responsible for implementation of the renovation components is the Ministry of Ecological Transition. France has also set up an Energy Renovation Observatory that will monitor all components of public policy on energy renovation of buildings in the country. The Observatory is expected to present first results in the 2nd half of 2021. Intermediate milestones are set for the majority of programmes.



TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

The NRRP provides significant volumes of funding for the renovation of public and residential properties and makes positive steps towards increasing the rate of renovation in the immediate term. Further steps are needed to ensure that the planned activities support deep renovation and allow the integration of different programmes and development of long-term supply chains to set France on a sustained pathway for decarbonisation of its buildings. Some of the areas for further improvement include:

- Set measurable energy and emissions saving targets for measures in the Plan and monitor the achieved energy savings to ensure they meet the requirements, shifting delivery towards deep renovations if monitoring evidence suggest insufficient uptake.
- Ensure technical support resources are sufficient to upscale renovation, particularly in the area of one-stop shop mechanisms and access to finance, and deploy public or private information and assistance support lines.
- Develop and invest in a long-term strategy for skills and professional development (e.g. through qualification schemes or continuous learning opportunities, as well as certification and labelling schemes) to ensure supply chains adapt to deliver integrated and reliable deep renovations and seize digital and other emerging opportunities.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the French NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1: Buildings renovation According to its National Energy and Climate Plan and in order to reach the 20% reduction of energy consumption by 2030 (in comparison with 2012, which is the national objective set for 2030), France needs to invest annually an additional EUR 15 to 25 billion until 2030 into the renovation of buildings, by increasing both the rate and depth of renovation. This component of the French recovery and resilience plan concerns investments and reforms aiming at improving energy efficiency of all types of buildings: public buildings and private ones, including private and social housing as well as buildings belonging to companies. The reforms supporting investments consist (i) in complementing the reform of the housing policy initiated by the "ELAN" Law adopted in 2018 in order to increase the efficiency of public expenditure through the revision of three existing schemes (APL, Pinel and PTZ) and (ii) adopting a revised thermal regulation of new buildings (RE2020). Investments under this component are key to achieving the energy efficiency objective, as buildings stock represents circa 25% of greenhouse gas (GHG) emissions in France and 45% of final energy consumption.				
Reform 1 (C1.R1): Housing policy The measure includes two distinct objectives that shall be implemented in two steps. - The revision of the calculation modalities for the APL ("aides personnelles au logement"): the amount of aid shall be calculated, from 1 January 2021 onwards, on the basis of the current income of the beneficiary household, instead of the income of the penultimate year. Such revision shall allow the system to adapt more quickly to the income variations of beneficiaries, with a view to improve social fairness. In addition, the amount of aid shall be recalculated every quarter, allowing for a gradual taking into account of recent changes in income. -The Pinel scheme is an income tax credit scheme for owners investing in new or rehabilitated dwellings in view of renting them. The decision should be taken in 2023 to end the Pinel scheme by the end of 2024 – the Pinel scheme would be later replaced by new provisions to foster mid-range accommodations financed by institutional investors in order to improve its impact on housing supply where the needs are the greatest, for instance by reducing incentives for new constructions in areas where the housing market is not under strain. This shall be complemented by changes in the way so-called zero-rate loans ("PTZ") are provided, in particular the eligibility of applicants shall be assessed on the basis of the current incomes in order to limit windfall effects that currently exist.				
		Q1 2021	1	Entry into force of the legislative changes to review the calculation modalities of APL to reflect current income of the households.
		Q1 2023	3	Entry into force of the legislative changes to the Pinel tax credit to improve its efficiency in view of increasing housing offer in areas where the market in under strain, and adoption and entry into force of the legislative changes to the PTZ scheme.
Reform 2 (C1.R2): Revised thermal regulation RE2020 On 1st January 2022, the revised thermal regulation of new buildings shall replace the existing thermal regulation of buildings that entered into force in 2012. The main objectives of the revision of thermal rules for new buildings are: • The improvement of energy sobriety and the decarbonisation of the energy consumed: introduction of stricter thresholds for (i) the bioclimatic need of housing (lowering the maximum threshold by 30% in comparison to current regulation RT 2012), (ii) non-renewable primary energy consumption, and (iii) GHG from energy consumption (4kgCO2/m²/year for a single-family house, and 14 kgCO2/m²/year for collective housing until 2024 and 6,5 kg after 2024). • The reduction of the carbon impact of new building: the carbon impact shall take into account the entire life cycle of the building, from its construction phase to its demolition, which represent between 60 to 90% of the buildings' carbon impact over 50 years. Such considerations shall lead to enhancing the use of more carbon neutral construction materials, such as wood and bio-based building materials (i.e. those that store carbon and emit very little during their production). • The adaptation of new buildings to climate change: the new regulation RE2020 shall (i) take into account the cooling of constructions in the calculation of the energy needs of a building, (ii) provide a summer comfort indicator calculated during the design of the building, and (iii) set a maximum high threshold of 1250 DH (degree-hour) and a minimum low threshold of 350 DH from which penalties shall apply in the calculation of energy performance.				
		Q1 2022	2	Entry into force of legislative changes included in the new RE2020 in order to reduce GHG emissions of new constructions, improve the energy performance of new buildings and adapt new buildings to climate change.
Investment 1 (C1.I1): Energy renovation of private housing, including energy sieves The French recovery and resilience plan will finance a grant scheme, called 'MaPrimeRenov' (MPR), which will be allocated to owners in order to contribute to financing insulation, heating, ventilation or energy audit works for single-family house or apartments in collective housing. All the MPR financed by the plan will be notified to owners for eligible renovation projects before the end of 2022. In order to guarantee quality standards of the works supported, the renovation works are carried out by companies with the RGE label ("recognized as guarantors of the environment").				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
The amount of the premium varies depending on the eligible materials, equipment and works performed, up to a ceiling of EUR 20 000 for a period of maximum 5 years. Since October 2020, MPR is open to all owners, regardless of their income. However, the aid intensity varies according to household income (for modest households, the aid may go up to 90% of the amount of estimated works). In addition, MPR may benefit owners who rent their apartment/house to a tenant. The grant may also support works carried out in the common areas of a condominium with "MPR copropriétés": this is a one-off aid paid to the syndicate of co-owners to finance the overall renovation works with a minimum energy gain of 35%. All condominiums consisting of at least 75% of houses (i.e. not undertakings) are eligible to this MPR, with a ceiling of EUR 3 750 per dwelling. A bonus may be allocated for condominiums with F or G labels (up to EUR 500 per dwelling), as well as for condominiums qualified as "fragile" or located in urban areas under renewal (up to EUR 3 000 per dwelling). The level of aid varies according to the energy savings obtained by the renovation works. In order to support the most energy-intensive homes to meet the ambitions set by the Energy and Climate Law adopted in 2019, an additional bonus to MPR shall benefit owners who undertake renovation works to bring their home out of the status of energy sieves (labels F and G). Another bonus will be distributed to owners who carry out renovations that allow the home to reach the most efficient labels (A or B). These bonuses shall reach EUR 1 500 for the poorest households, EUR 1 000 for middle-income households, and EUR 500 for the wealthiest ones. In addition, in order to incentivise more efficient energy renovation (i.e. beyond renovation "gestures"), the measure provides the creation of a global renovation aid subject to the achievement of at least 55% of energy savings: the envelope shall vary between EUR 3 500 and EUR 7 000 for middle to high income households. Overall, the energy renovation works carried out in private housing has an objective to achieve at least 30% of energy savings on average.				
	1404.5	Q4 2021 Q4 2022	1/2	400.000 households by Q4 2021 and 700.000 households (baseline is 400.000) by Q4 2022 which have been granted a MPR.
Investment 2 (C1.I2): Energy renovation and major rehabilitation of social housing This measure consists in supporting social housing organisations ("offices HLM - Habitation à Loyer Modéré" are offices in charge of low-income housing) and local authorities operating social housing in order to support deep renovation of buildings. The ambition is to reach highest standards such as BBC renovation label, and gradually eliminate energy sieves. The grant shall be allocated provided that existing schemes (such as écoPLS and CEE), which may be combined with this new aid, are not sufficient to finance the operations of renovation. The measure shall also deploy industrial solutions for energy renovation in social housing buildings in order to achieve zero or positive net energy balance. First operations are expected to start in Q2 2021, and the financial envelope shall be allocated by State services at regional and local levels, on the basis of a survey identifying the needs. The selection of projects shall be done either through a call for projects launched in 2020 or through subsidies managed by decentralized State services or local authorities. Operations are intended to be committed in 2021 and 2022, and to be completed by the end of 2024.				
	500	Q4 2021/ Q4 2022	1/2	20.000 by Q4 2021 and 40.000 (baseline 20.000) by Q4 2022 dwellings within the category of social housing receiving a grant for renovation, with an objective of achieving at least 30% of energy savings on average.
Investment 3 (C1.I3): Thermal renovation of public buildings The renovation works of public buildings have to comply with the decree adopted in application of article 175 of the ELAN Law , which imposes a reduction in energy consumption by 40% by 2030 (compared to 2010) to tertiary buildings. For public buildings belonging to the State, two types of calls for projects were organised: • One concerning higher education and research buildings and universities, which has been launched and is supervised by the Ministry of Higher Education, Research and innovation; • Another for all other buildings belonging to the State or its operators, which has been launched and is supervised mainly by the DIE (Direction de l'Immobilier de l'Etat). The first two calls for projects were launched in autumn 2020, and more than 4 000 projects have been selected in December 2020. For buildings belonging to local and regional authorities, specific mechanisms are in place: • For buildings owned or operated by regional authorities (mainly high schools), "credit delegations" shall be allocated by the State, and the regions shall be in charge of project selection; • For buildings belonging to infra-regional authorities (mainly schools and primary colleges), investment grants shall be allocated by the State. The projects are selected based on two main criteria: the maturity (and rapid implementation) and on the energy performance and impact on energy consumption, with the objective to achieve at least 30% of energy savings on average. For all public buildings, the objective is to have all contracts notified by the end of 2021, and completed by the end of 2024.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment 4 (C1.I4): Energy renovation of very small enterprises (VSEs) and small and medium sized enterprises (SMEs) This investment is part of a plan launched by the government in June 2020 to accompany very small and medium-sized enterprises in the ecological transition. To support thermal renovation of their buildings, two support mechanisms are in place under this investment: The main support scheme is a tax credit amounting to 30% of the expenses of eligible actions (such as insulation of roofs, attics, walls; collective solar water heater and heat pumps), and capped at EUR 25 000 per undertaking. This scheme is open for expenses incurred from 1 October 2020 until 31 December 2021. The tax credit is charged against income tax or corporate tax due by the taxpayer for the calendar year in which the eligible expenditure was incurred (i.e. 2020 or 2021). The second support scheme shall finance accompanying measures to support artisans, small traders and self-employed people in their renovation works. The envelope shall be spent through Chambers of trades and crafts (CMA) and Chambers of Commerce and Industry (CCI), in four steps: • Awareness: this step aims to make business leaders aware of the challenges of the energy renovation of buildings in the context of ecological transition; this action shall include a national communication campaign and local actions, in conjunction with local authorities and professional organizations. • Diagnosis: an energy audit shall be carried out by an advisor from the CMA or the CCI, in order elaborate an action plan to start renovation works, on the basis of the ecological maturity of each company. • Implementation: an expert shall help implementing the action plan through technical and financial assistance (such as setting up the grand applications). • Promotion: actions undertaken by companies in the field of renovation of buildings shall be promoted to different audiences, such as consumers, companies and local authorities.				
	120	Q4 2023	3	5.000 companies benefiting from the tax credit for the energy renovation of VSEs and SMEs buildings of tertiary use and/or support from chambers of trade and crafts (CMA) and chambers of commerce and industry (CCI).
COMPONENT 4: Green energies and technologies Investing in key sustainable technologies shall contribute to put the French industry in a favourable position vis-à-vis emerging green markets.				
	500	Q4 2021 Q4 2022	1/2	20.000 by Q4 2021 and 40.000 (baseline 20.000) by Q4 2022 dwellings within the category of social housing receiving a grant for renovation, with an objective of achieving at least 30% of energy savings on average.
Investment 1 (C4I1): Innovate for the green transition This investment shall finance innovation projects, building on seven 'acceleration strategies' on the green transition: • Sustainable cities and innovative buildings. Aiming to reduce urban sprawl to the detriment of agricultural land and natural spaces, and to make cities more resource-efficient, resilient, inclusive and productive, this strategy shall support innovative and replicable territorial demonstrators, with a focus in particular on the definition of tools and methods to promote the large-scale deployment of energy renovation of buildings; structuring the wood and geo-sourced materials sector with a view to carbon neutrality; and the digital transition of cities and artificial intelligence.				
		Q4 2021	1	7 'acceleration strategies' validated
		Q4 2022	2	Launch of calls for proposals or calls for interest.
		Q4 2023	3	Award of the contracts – implementing decision of the Prime Minister.
COMPONENT 7: Digitalisation of State, territories, enterprises, Culture The support measures to the cultural sectors aim at the recovery of a severely hit sector via targeted investments in renovation, heritage, employment in the field of arts and modernisation of training, cinema, press, and book sectors, with a focus on climate transition and youth.				
Investment 11 (C7.I11): Support for cultural sectors and heritage renovations The investment shall support cultural heritage renovations, promote the performing arts, consolidate French major cultural economic sectors and put in place a strategy for cultural and creative industries. The investment shall support three sub-measures: investment in cultural heritage to renovate historic monuments, in order to ensure their lasting viability and as such contribute to promoting local tourism eco-systems; investment for employment and training modernization and investment for cultural strategic sectors. The investment for artistic employment and training modernization shall support three actions: • a modernization plan for cultural higher education establishments which shall invest in energy retrofitting, support training, and strengthen their digitalization through the modernization of their teaching tools and their IT infrastructures; The investment in strategic sectors shall support three distinct actions, each corresponding to a strategic sector: the Press Sector plan, the Book Sector plan, the Cinema Sector Plan. The Press Sector Plan shall support the following five sub-actions: • support in the modernization of broadcasters who wish to renovate their sales area or optimize their management of press products; • a fund for ecological transition to finance research and development projects aimed at reducing the carbon footprint of the sector and at offering innovative solutions to support the transition of the sector; The Book Sector Plan shall fight against the most lasting effects of the health crisis and support the necessary changes in the sector. It shall support three sub-actions. • Finally, the general library decentralization allocation shall be temporarily reinforced in order to extend opening hours and make structural investments. These investments shall finance in particular the renovation work and the upgrading of the buildings' thermal and energy standards.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Modernisation plan for cultural higher education establishments (renovation part)	64.4	Q4 2024	4	13 art and architecture schools renovation works completed.
Press Sector Plan - climate part	16	Q4 2022	2	The Press Sector Plan shall support the following (out of five sub-actions): • support in the modernization of broadcasters who wish to renovate their sales area or optimize their management of press products; • a fund for ecological transition to finance research and development projects aimed at reducing the carbon footprint of the sector and at offering innovative solutions to support the transition of the sector; Report to be provided by the French Government providing evidence of completion.
Book Sector Plan - renovation part		Q4 2022	2	The Book Sector Plan : Report to be provided by the French Government providing evidence of completion.
COMPONENT 9: Research, Health and Dependence, Territorial cohesion The component includes investments in the health sector across the territory, including modernisation and renovation of infrastructures and the digitalisation of health.				
Investment 2 (C9I2): Modernisation and restructuring of hospitals and health care supply As announced in the Health Segur plan, the government has committed to increasing investment support for hospitals and health care facilities. A part of these investments concerns the complete renovation and the modernisation of hospital buildings, also with a view to increasing their energy efficiency (improved insulation of buildings to improve thermal comfort, better performance of technical installations reducing consumption). Other investment projects concern the construction of outpatient facilities and the modernisation of medical infrastructure and equipment (such as the equipment of surgical rooms and the development of outpatient services). The Regional Health Agencies shall be responsible for identifying and examining the investment needs of hospitals with regard to the specific needs of their territories.				
('investissements structurants'–50%)	1250	Q1 2023/ Q4 2025	3/5	800 by Q1 2023 and 1000 by Q4 2025 establishments to which the ARS (Regional Health Agency) has allocated credits investments in technical installations, equipment or light renovation. Cumulative calculation: number of different health care institutions that received these credits.
		Q4 2024/ Q2 2026	4/5	20 by Q4 2024 and 30 (baseline 20) by Q2 2026 establishments for which the ARS (Regional Health Agency) has validated support investments project in the construction, energy renovation and modernization of medical establishments, for an amount exceeding EUR 20 000 000. Cumulative calculation.
Investment 3 (C9I3): Renovation of medico-social establishments. This investment is aimed at the renovation, transformation and equipment of the French medico-social sector, in particular Establishments for Dependent Elderly Persons (EHPAD) over the period 2021-2025, in order to increase their accommodation and care capacity in anticipation of future demographic changes and to contribute to the ecological transition through energy efficient projects. This measure shall consist of supporting investments in the medico-social sector for the renovation or reconstruction of the most obsolete EHPAD, mainly in the public sector. Examples of investments include renovation and extension projects for public EHPADs, including the construction or renovation of individual rooms and individual sanitary facilities, the development of reception areas, the upgrading of facilities to accessibility standards, and the creation of facilities adapted to people with cognitive disorders.				
('PAI immobilier' part)	1250	Q2 2026	5	36.000 accommodation units built or renovated in EHPAD, or homes for the elderly or dependent persons.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

DENEFF

COUNTRY:

GERMANY

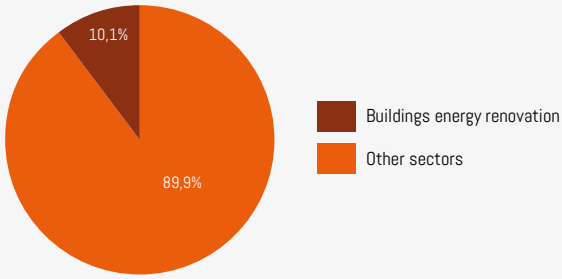
OVERVIEW:

Germany's profile is based on information provided by Renovate Europe's German National Partner: the German Corporate Initiative on Energy Efficiency (DENEFF). This Country Profile focuses on the buildings elements of Germany's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan allocates additional funding to existing energy efficiency programmes and sets some intermediate milestones for 2023 and 2026, which could be more precise and more clearly linked to specific investment gaps. The NRRP is a helpful addition, although small in comparison to existing renovation programmes, which themselves are still insufficient to achieve climate targets. The Plan itself can be further improved by strengthening supply chain development and additional project support, especially through skills programmes, technical assistance, by increasing the role of federal one-stop-shops and stronger alignment with Germany's renovation strategy.

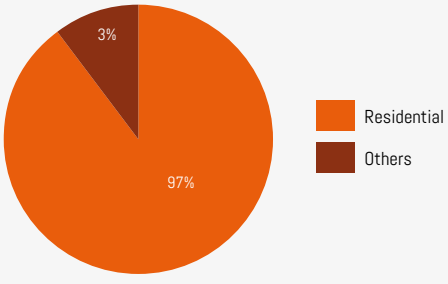
BUILDINGS IN THE CONTEXT OF THE PLAN

In total, Germany plans to invest €140bn in recovery measures. Germany's NRRP is just a part of this, comprising close to €26bn from the EU Recovery and Resilience Facility (RRF). Close to €2.6bn of that (~10%) is allocated to renovation. These funds exclusively target the residential sector as federal funding for energy-efficient buildings, while Germany's overall recovery package targets other building sectors as well. €57m are allocated to municipal living labs, which are conducting research on the energy transition and their implementation until 2026; and €20m will support the development of climate-friendly construction with timber, running to the end of 2021. A further €500m is allocated to a special "child day care expansion" programme including new buildings, conversions, renovations, and equipment (not included in the figure below). Green Recovery Tracker analysis suggests that most building-related measures are likely to have a very positive impact on the green transition.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A study for the EC[1] based on data from 2012-2016 estimated that only 0.9% of residential sector renovations in Germany were medium depth and 0.1% deep renovations. For non-residential buildings it is estimated that only 1.3% of energy renovations were medium depth, and 0.2% deep. According to DENEFF, the funding landscape is already in place in Germany, but that a longer-term policy outlook for investors and the construction industry are needed to significantly scale up deep renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Germany's NRRP reiterates the EU's strengthened goal of reducing greenhouse gas emissions by 55% by 2030. It references Germany's Long Term Renovation Strategy (LTRS) but does not mention overarching energy efficiency or renovation rate goals. The Plan's residential programme aims to achieve deep renovation of 40,000 dwellings by 2026, corresponding to a renovated area of 3,676,000 m². Germany's LTRS sets the target of increasing the renovation rate from 1.3% to 2% for single and two-family houses and from around 1.5% to over 2% for apartment blocks by 2030. Milestones are set for dwelling renovations carried out and projects approved by 2026. Holistic upgrades and the application of the Energy Efficiency First Principle are not explicitly mentioned, but for the residential sector the expectation is that projects will deliver, on average, a minimum of 45% of primary energy demand savings and potentially significantly more (70% savings) through bonuses for renewable energy and energy efficiency.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Germany's LTRS only laid out 2018 energy renovation investment figures: €182m worth of grants triggering private investment of €734m. Neither the National Energy and Climate Plan (NECP) nor the NRRP include estimates of the overall investment need for renovation or the investment gap. The investment contribution of the NRRP towards LTRS goals is therefore unclear. The NRRP mentions carbon pricing and the potential for revenue generated to be recycled to further climate protection measures, tax incentives or a 'carbon dividend' paid to low-income households. The NRRP measures are expected to be prolonged after 2026 with national funding.

MULTIPLE BENEFITS AND INTEGRATION

The NRRP's residential renovation programme does not set out whether it will target low-income households, or those in energy poverty. The Plan highlights the use of digital tools to achieve a higher rate of decarbonisation: one already existing digital programme is now under the NRRP newly eligible for support in the overarching programme for buildings. It promotes **digital monitoring of energy efficiency and optimisation** of energy consumption in buildings. The NRRP's innovation initiative for timber construction has links to the **circular economy** and the use of **sustainable materials.** Beyond, this – while Germany's wider recovery package is to invest significantly in heat decarbonisation – the NRRP does not integrate renovation with further priorities.

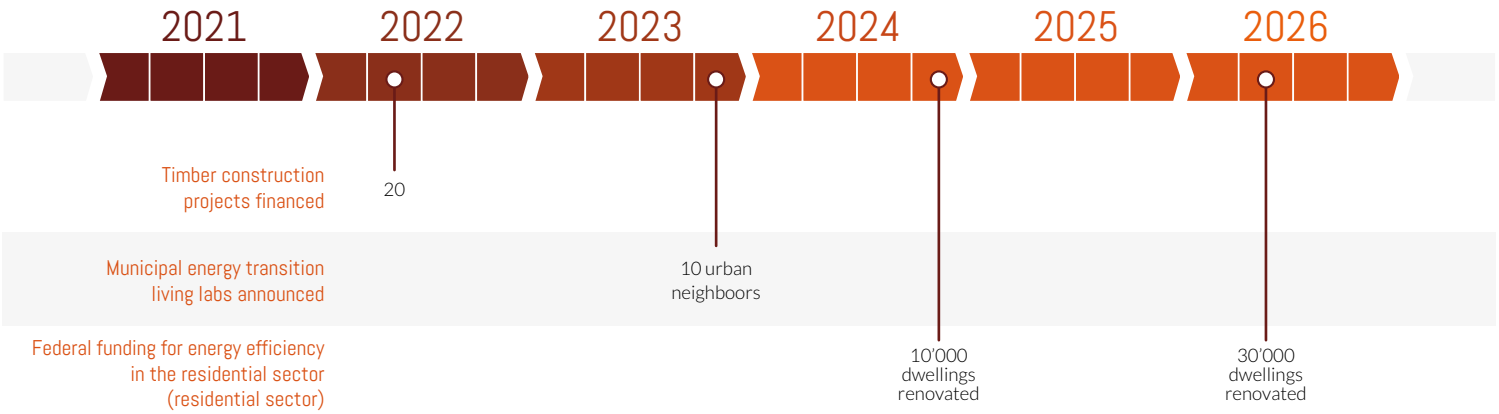
SUPPLY CHAIN AND PROJECT SUPPORT

Supportive measures like technical assistance, upskilling for energy and construction professionals and the development of renovation project pipelines are critical to scaling up the rate of deep renovation. Germany's NRRP includes measures for knowledge transfer and training, designed to build knowledge clusters in timber construction methods. The NRRP does not outline further capacity building and technical support for end-users, businesses, or local administrations.

IMPLEMENTATION FRAMEWORK

The NRRP sets milestones and targets for 2024 and 2026 for the number of renovated dwellings and funded projects, contributing towards a floor area renovation estimate of 3,676,000 m² (approximately 0.1% of Germany's residential floor area). The Ministry of Economy is primarily responsible for overseeing the measures while Germany's National Public Bank (KfW) and Federal Office for Economic Affairs (BAFA) are tasked with implementation. Specific mechanisms are in place to measure progress with a dedicated coordination unit at the Federal Ministry of Finance.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Germany's NRRP needs to be understood in the context of its wider recovery package and existing policy framework. The Plan's renovation components are quite tightly focused, with the bulk directed at residential deep renovation with an emphasis on innovation. With this and other measures, there is therefore an opportunity to:

- Set quantifiable targets for overall renovation rate increase, energy and emissions savings, in line with LTRS targets, and transparently apply the Energy Efficiency First Principle, which the EU intends to strengthen.
- Monitor whether existing technical support resources, learning capabilities and training provision will be sufficient to rapidly scale up and mainstream the innovation-focused deep renovations planned, and increase capacity in these areas as needed.
- Set out a roadmap to increase the role of sustainable timber and sustainable materials in construction and renovation that includes how the Plan's living laboratories can increase momentum.

NOTE

The survey was complemented with a targeted desk-based review of Germany's Long-Term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the same draft Plan.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the German NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1.3: CLIMATE-FRIENDLY RENOVATION AND CONSTRUCTION In the building sector, Germany aims to reduce CO2 emissions by around 40% by 2030 compared to current levels (120 million tonnes of CO2 equivalent in 2020). By 2050, Germany aims to achieve net-zero GHG emissions, including for the building stock in Germany. At the same time, it must be ensured that construction and housing remain affordable. The climate-friendly construction and renovation component aims at contributing to the achievement of these objectives by increasing energy efficiency and the share of renewable energy in final energy consumption for heating and cooling in buildings. Accompanying measures for the timber construction sector towards digitalisation, circularity and climate-friendly practices shall also be undertaken as timber is identified as having the potential to constitute a climate friendly and resource-efficient building material, as well as leading to cost-effective and time-efficient construction and renovation methods.				
1.3.1 Investment: Support programme for the development of a climate-friendly timber construction The objective of this investment is to accelerate the development, deployment and diffusion of innovative technologies, processes, products and services (digital transformation) to increase the use of timber as a climate-friendly building material. The measure is also intended to help overcome structural disadvantages and obstacles in order to be able to establish construction with timber on an equal footing in large-scale, multi-storey construction. To overcome the challenge of transfer of knowledge, innovation and technology between research and practice, the measure further aims to improve the networking between businesses, academia and research institutions related to climate-friendly construction with timber. To that end, the measure shall focus support on advisory services (analysis, evaluations and recommendations) directed towards increasing the use of timber (coniferous/deciduous) and related to digitalisation, service and business innovation, business optimisation, and recyclability of construction products. The measure shall also focus on the development of innovation clusters related to innovation and development of climate-friendly timber construction. Given the structure of the sector, SMEs are expected to be the main beneficiaries of the support.				
		Q1 2021/ Q2 2022	1/2	By Q1 2021, the guidelines have been published in the Federal Gazette (Bundesanzeiger), enabling companies and eligible organisations to apply for funding. By Q2 2022, at least 20 projects have been approved, enabling the beneficiaries to start their implementation.
1.3.2 Investment: Municipal living labs for the energy transition Municipal living labs for the energy transition explore and demonstrate innovative solutions for the efficient and sustainable energy supply of urban neighbourhoods. Technological and non-technical innovations are tested in a real-world environment, thereby contributing to technology development and market penetration, whilst serving as a blueprint for the subsequent large-scale roll-out of integrated solutions. Living laboratories (including this measure) are one of the sector coupling measures of the German National Energy and Climate Plan (NECP).				
	57	Q4 2023/ Q1 2026	3/5	By Q4 2023, at least four joint living labs projects have been approved through a grant decision, enabling the start of their implementation. By Q1 2026, innovative installations for efficient and sustainable energy supply have been tested and are operational in 10 urban neighbourhoods. The 10 implemented neighbourhood projects demonstrably achieve a reduction in primary energy demand compared to conventional energy supply for buildings, thus contributing to decarbonisation in the building sector.
1.3.3 Investment: Building renovation: federal funding for energy-efficient buildings This investment measure focuses on support to the energy-efficient renovation of residential buildings. The measure shall achieve, on average, at least a medium-depth level renovation as defined in Commission Recommendation (EU) 2019/786 on Building Renovation . More specifically, given the current state of housing stock and the minimum requirement to obtain support under the measure (the renovated building must achieve at minimum Energy class 100) it is expected to achieve on average a minimum of 45% of primary energy demand savings and potentially significantly more (70% savings) through bonuses for renewable energy and better classes of energy efficiency. The implementation of the measure under the German recovery and resilience plan is expected to start by 1 July 2021 and shall be completed by 31 August 2026. In addition, Germany is planning to prolong the measure beyond 2026 with funding under its national budget.				
	2500	Q3 2021 Q4 2024 Q2 2026	1/4/5	By Q3 2021, the guidelines have been published, enabling households and eligible organisations to apply for funding. By Q4 2024, at least 10.000 housing units have been renovated under the support scheme; the corresponding works have been fully carried out and the corresponding grants have been disbursed. By Q3 2021, the guidelines have been published, enabling households and eligible organisations to apply for funding. By Q4 2024, at least 10.000 housing units have been renovated under the support scheme; the corresponding works have been fully carried out and the corresponding grants have been disbursed. By Q2 2026, at least 40.000 (baseline 10.000) housing units have been renovated under the support scheme; the corresponding works have been fully carried out and the corresponding grants have been disbursed

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 4.1: STRENGTHENING OF SOCIAL INCLUSION This component of the German recovery and resilience plan mobilises resources to improve different aspects of social inclusion: (i) labour market inclusion of women and parents in general, (ii) improving educational outcomes and skills for students with a learning backlog, often from disadvantaged backgrounds, (iii) safeguarding apprenticeships, thereby supporting the labour market entry for young people, (iv) protecting take-home pay and jobs by avoiding an increase in the tax wedge, and (v) improving transparency throughout all three pillars of the pension system and thereby access to social protection.				
4.1.1 Investment: Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion' The objective of the measure is to promote the creation of new childcare facilities and the refurbishment of existing facilities, which shall create 90.000 additional places. For this purpose, the federal government provides support to Länder and local authorities so that these invest in new buildings, extensions, conversions, refurbishments, renovations and equipment.				
	500	Q4 2023/ Q4 2025	3/5	By Q4 2023, an interim report on approved and created childcare places and investments in equipment (§ 30 (2) and (3) KitaFinHG) has been published. The relevant Länder have reported to the federal government on the state of implementation, including on funding, number of childcare places, number of subsidised equipment, in accordance with the monitoring and guidance obligations. By Q4 2025, the Länder have submitted their final report on implementation after completion of the checks on the use of funds. The report confirms that 90.000 newly funded childcare places for children prior to school entry have been created in child day-care facilities (Kindertageseinrichtungen) and child day-care services (Kindertagespflege) throughout Germany.
COMPONENT 6.2: REDUCTION OF BARRIERS TO INVESTMENT				
6.2.1 Reform: Joint programme of the Federal Government and the Länder for an efficient administration that benefits citizens and businesses The objectives of the measure are to make the administration more efficient, future-oriented and innovation-inducing. It aims, among other things, to accelerate planning and approval procedures, to further standardise the requirements faced by lower levels of government for requesting financial subsidies in order to ensure a faster outflow of funds, to accelerate housing construction, and to increase the number of successful transfers of business ownership to the next generation. The measure consists of establishing a working group comprised of the federal level and the Länder, which shall develop proposals to improve the efficiency of public administration in 11 areas (as detailed in the milestones) that shall be implemented by 2025.				
		Q2 2021/ Q2 2022/ Q1 2025	1/2/4	By Q2 2021, the first report to the heads of government of the Federal Government and the Länder has been published and shall encompass a list of those measures from the Federal/Länder programme of measures which shall be further examined and processed. The starting point of the report are the following eleven areas of action: —Accelerating the outflow of grants; —Identifying obstacles to the outflow of grants and reporting them to the Federal Ministry of Finance; —Improving the financial support of municipalities; —Streamlining and making grants from the Federal Government to the Länder and municipalities as uniform as possible; —Improving transfer of business ownership through a dedicated task force; —Revising the Musterbauordnung (model building code); —Strengthening planning and approval authorities; —Improving recruitment of skilled staff and ensuring an improved staffing situation; —Accelerating planning, in particular rail, local public and private transport; — Streamlining the consultation process and public participation procedures and simplifying participation through digitalisation; —Further accelerating planning and approval processes.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

INZEB
INITIALISING ENERGY BALANCE TOWARDS ZERO

COUNTRY:

GREECE

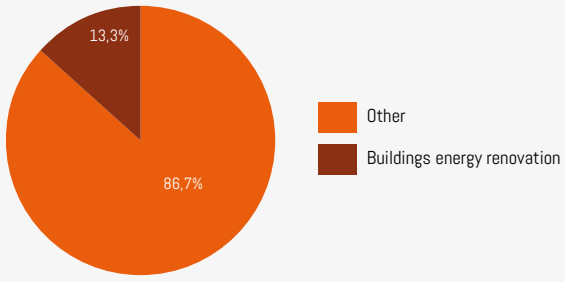
OVERVIEW:

Greece's Country Profile is based on information provided by Renovate Europe's Greek National Partner INZEB- Initialising Energy Balance towards Zero. This Country Profile focuses on the buildings elements in the Greek National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan allocates around 13% of funding to energy efficiency improvement. It can benefit from further measures to raise public awareness and support uptake of measures, clearer milestones for delivery and further activity to support the leveraging of private capital. supply chain and project support.

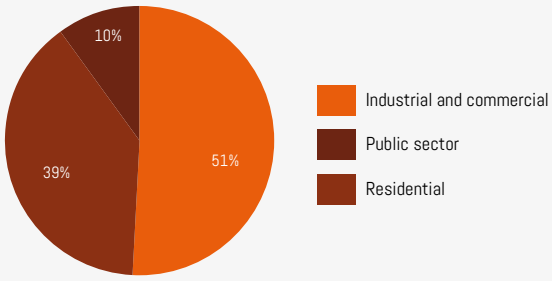
BUILDINGS IN THE CONTEXT OF THE PLAN

Greece has requested a total of €30.5bn in support under the Recovery and Resilience Facility including €17.8 bn in grants and €12.7bn in loans. Energy renovation of buildings features throughout the Plan both as an individual sub-component as well as part of wider investment across the public sector, with total funding amounting to €4.1bn. Notably, nearly €1.3bn are earmarked for investing in energy savings in homes, with a further €350m allocated to adaptation and further energy efficiency as part of regeneration plans. A separate Loan Facility will provide close to €1.4bn for energy efficiency and demonstration projects in SMEs or large enterprises alongside €450m in the form of grants. Funding is also provided in specific industries like tourism (€119m) and education and vocational training (€108m), bringing the total for business/commercial sector to just over €2bn. €200m is dedicated to public sector buildings and energy infrastructure of public entities. Further funding is allocated for energy renovation of health infrastructure (€189m) and the justice system (€27m). Energy efficiency of buildings features as part of other modernisation programmes, but precise allocations are unclear. Some funding is in place for new buildings as well and for some reforms like a review urban planning practices. They have not been included in the chart below.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that for residential buildings in Greece only 1.1% of annual renovations were medium depth and 0.2% deep renovations. For non-residential buildings the estimated number is 2.9% for medium, and 0.4% deep. In order to increase the rate and depth of renovation, two of the main challenges that need to be overcome are raising public awareness of the benefits of energy efficient buildings and increasing the rate of private funding for energy renovation. Energy poverty is also a significant social challenge; an estimated ~18% of the population is unable to keep their homes adequately warm in 2019 according to the EU Energy Poverty Observatory [2].

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

[2] EU Energy Poverty Observatory link here

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP sets the target at medium depth (at least 30% primary energy savings) for the residential sector and the main scheme for public sector buildings, while some of the remaining schemes (e.g., health and tourism) are not associated with minimum energy saving requirements. Targets are largely set in terms of number of properties to be renovated across the public, private and residential sectors. For the latter there is also an overall energy saving target of 213 ktoe. Links to the LTRS are drawn, but ambition remains relatively low in comparison. The NRRP does not clearly state whether holistic measures are supported or whether the Energy Efficiency First Principle would be applied. The energy saving programmes would be evaluated mainly on the basis of an EPC upgrade but prior to their launch in September 2021 some of the details remain unknown.

FINANCIAL LANDSCAPE AND PERSPECTIVE

According to Greece's NECP, total planned budget for energy efficiency measures is estimated at €11bn, which is assessed by the Commission as "credible but not sufficiently ambitious"[3]. In this context the €4.1bn included in the NRRP budget are significant and the Loan Facility to finance investment in energy efficiency for enterprises can provide a significant contribution towards leveraging private capital. Mobilisation of further funding would still be necessary to meet objectives, including in other sectors. The relationship between the NRRP funds and other public funding sources has not been elaborated in detail.

MULTIPLE BENEFITS AND INTEGRATION

The NRRP also includes a proposal to introduce reforms to address energy poverty by creating a framework that will introduce monitoring and energy poverty reduction mechanisms. The stated aim is to reduce energy poverty by 50% until 2025 and by 75% by 2030. Decarbonisation measures focus on renewable energy generation and electricity network resilience rather than deployment of building-level technologies. Greece's NRRP allocates €73m to the digitalisation of buildings by installing an optical fibres infrastructure with the goal of developing modern technological applications and the optimal connection of citizens to data sources. The promotion of energy management systems and deployment of e-mobility infrastructure are also foreseen as part of the renovation programmes in the residential sector, alongside support for climate adaptation and regeneration of urban and coastal areas.

SUPPLY CHAIN AND PROJECT SUPPORT

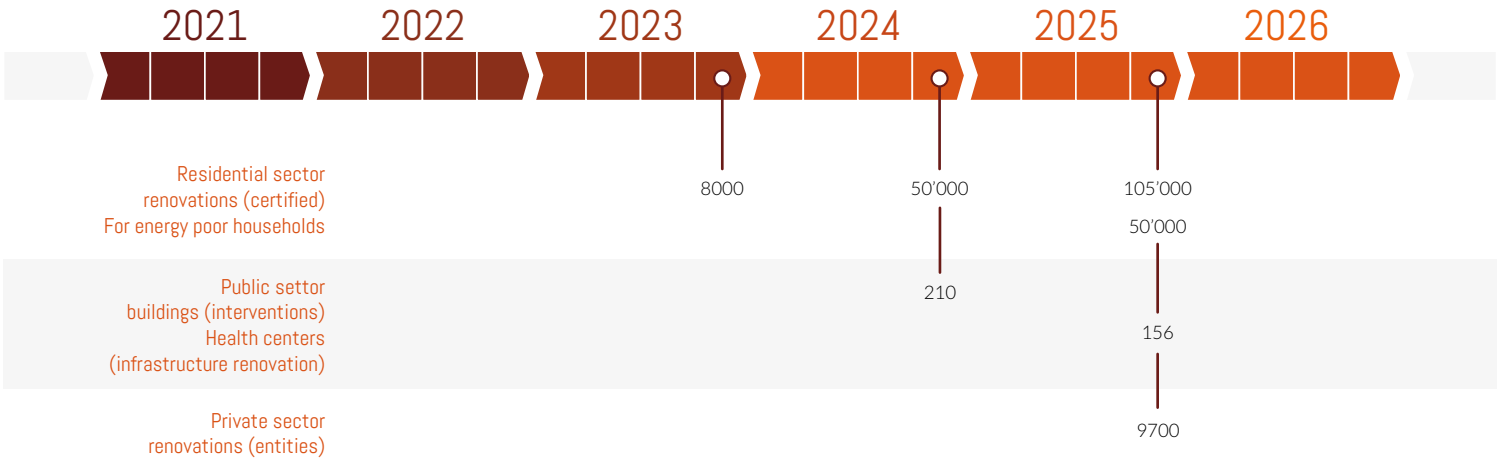
Greece's NRRP does not allocate funding for technical assistance such as the development of one-stop-shops to support energy renovation, although discussions around the model have been ongoing within industry and other initiatives (e.g., through the national Sustainable Energy Investment Forums (SEIFs))[4]. Two programmes are proposed for upskilling and training for green skills including a new strategy for modernisation and lifelong learning, but these programmes are still under development and it remains unclear if they will be a comprehensive path to upskilling and certification of energy professionals.

IMPLEMENTATION FRAMEWORK

The Recovery and Resilience Facility Coordination Agency, part of the Ministry of Finance, is the lead body to oversee the coordination of the Plan and monitor implementation, while individual bodies will be responsible for different components of the Plan. However, according to the European Commission assessment, the majority of implementing bodies including for the renovation component of the plan have not been identified and this makes capacity assessment a challenge. Intermediate milestones and targets have been set for some, but not all measures in the Plan.

[3] Commission Staff Working Document: Analysis of the recovery and resilience plan of Greece here
[4] SMAFIN National Roundtable summary: here

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Greece's NRRP can make a significant positive contribution in the country by making key steps around the provision of public funding, establishing a framework for energy poverty, and creating new financing tools for enterprises. There are opportunities to make further progress in several areas:

- Invest in the creation of one-stop-shops and sufficient technical assistance to address key challenges linked to lack of awareness and support to help with uptake of energy renovation measures.
- Ensure that the planned education and vocational reforms support upskilling and re-skilling of energy professionals including installers.
- Strengthen the implementation framework by assigning clear implementing bodies, monitoring and reporting processes and programme delivery outcomes

NOTE

The survey was complemented with a targeted desk-based review of Greece's Long-term Renovation Strategy (LTRS) to place its NRRP in context.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Greek NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1.2: RENOVATE The renovate component of the Greek recovery and resilience plan under the green pillar shall increase energy efficiency, enhance economic growth, create job opportunities and promote social resilience. It comprises of targeted reforms and investments to reduce CO2 emissions, support for the achievement of the climate "neutrality" of urban areas and the enhancement of the climate resilience of cities' and their building stock. The component provides incentives for building renovations and energy upgrades that shall be instrumental in the regeneration of urban areas and energy poverty mitigation and shall contribute to achieving the targets set out in Greece's National Energy and Climate Plan (NECP).				
Investment: Energy renovation on residential buildings (measure ID: 16872) The investment shall improve the energy efficiency of residential buildings. It comprises renovations that shall yield significant primary energy savings, thus contributing to the relevant NECP targets. It shall improve the digitalisation of final energy consumption through energy management systems and promote the deployment of e-mobility infrastructure, such as charging stations for electric vehicles. It shall also provide earmarked funds targeting energy poor residences, thus establishing a link with the reform aiming to prepare an energy poverty action plan				
Residential renovation – 1st round launch	1 253	Q4 2020	1/3/5/7/9	Entry into force of a Joint Ministerial Decision to launch the programme for the first round renovations including setting up a selection process to ensure that the primary energy consumption of residences is reduced by at least 30% compared to the residence's initial performance calculated in kWh/m2. The Joint Ministerial Decision shall set out: - Implementation mechanism; - Selection process to achieve set primary energy saving target; - Certification mechanism to validate actual primary energy savings achieved (incl. details of possible corrective actions to ensure that primary energy saving target is met); and - Timeline.
Residential renovation – 2nd round launch including energy poor households		Q3 2022		Entry into force of a Joint Ministerial Decision to launch the programme for the second round renovations and the launch of the Programme for the energy poor residences Specific provision for earmarked funds to target energy poor residences, as defined by criteria of the energy poverty action plan.
Residential renovation – 3rd round launch including energy poor households		Q4 2022		Entry into force of a Joint Ministerial Decision to launch the programme for the third round renovations
Renovation of residences #1		Q4 2023		8.000 certified renovations completed. Renovations to improve energy efficiency completed for the number of residences, equivalent to energy reduction of 30 ktoe and with primary energy savings, on average, of at least 30%. The certification issued by the Hellenic Development Bank shall provide verification of the primary energy savings achieved as confirmed by the General Directorate of the Body of Inspectors and Auditors. The certificate shall be submitted on the electronic platform https://www.buildingcert.gr/
Renovation of residences #2		Q4 2024		50.000 (baseline 8.000) certified renovations completed.
Renovation of residences #3		Q4 2025		50.000 (baseline 8.000) certified renovations completed.
Renovation of residences for energy poor households		Q4 2025		Completion of interventions to achieve energy savings for at least 50 000 energy-poor households equivalent to primary energy savings, on average, of at least 30% for the entire investment.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment: Interventions in residential areas and in the building stock (measure ID: 16873) This investment comprises: 1) Climate change adaptation and mitigation interventions in 16 urban and coastal areas such as the protection of urban landmarks of significant importance and the promotion of the climate neutrality of cities; 2) The regeneration of the former industrial area of Votanikos / Elaionas at the heart of Athens; 3) The upgrade of a seafront to make it accessible for cyclists and pedestrians along the coast of Athens (Athens Riviera); and 4) Other strategic interventions selected through an open call to municipalities that shall promote climate change adaptation and contribute to primary energy savings and reducing GHG emissions.				
		Q2 2023/ Q4 2024	4/9	Notification of the award of the contract(s) for the appointment of private sector partner(s) to carry out, by 30 September 2025, the works for the (i) improvement of urban environment and public space in selected municipalities following an open call aiming to strengthen climate resilience; (ii) urban regeneration of the ex-industrial area of Votanikos / Elaionas, including public re-use of the Navy military camp, renovation of the Agricultural University of Athens (AUA) campus; (iii) Athens Riviera: cycling infrastructure; and (iv) other strategic interventions, which shall be selected, following an open call to municipalities covering: (1) energy efficiency and demonstration projects in SMEs or large enterprises and achieving, at least, a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786, or, on average, at least a 30% reduction of direct and indirect GHG emissions compared to the ex-ante emissions; (2) construction of new energy efficient buildings and with a Primary Energy Demand (PED) that is, at least, 20% lower than the NZEB requirement (nearly zero-energy building, national directives); and (3) nature and biodiversity protection, natural heritage and resources, green and blue infrastructure.
Adaptation and climate resilience measures	160			
Eleonas/ Votanikos _Energy efficiency measures	116			
Other Strategic Interventions - Energy efficiency measures	77			
Other Strategic Interventions - Construction of new energy efficient buildings	47			
		Q4 2025		Complete all works under (i) Interventions aiming to improve urban environment and public space; (ii) Urban regeneration of the ex-industrial area of Votanikos / Elaionas; (iii) Athens Riviera: cycling infrastructure; and (iv) Other strategic interventions.
Investment: Infrastructure development and buildings' restoration in former royal estate in Tatoi (measure ID: 16875) The investment comprises the renovation of buildings and upgrading their energy efficiency and infrastructure networks at the Tatoi estate and creation of walking and cycling routes in its vicinity. The project shall deliver a green, renovated and freely accessible area for recreation to the inhabitants of Attica, as well as a new landmark for tourists to visit.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
	40	Q4 2025	9	Complete all works under the 'Infrastructure development and buildings' restoration in former royal estate in Tatoi' programme, including: (i) infrastructure works; (ii) restoration of the palace to be reused as a Museum; (iii) exhibition of the palace; (iv) restoration of the agricultural building and reuse as a museum; (v) museological study for the new agricultural building; (vi) restoration of palace gardens; (vii) conservation and restoration of artefacts; (viii) recording, documentation and registration of artefacts; and (ix) digitization of found paper archival material.
Olympic Athletic Center of Athens (ID: 16932) This investment in the Olympic Athletic Centre of Athens shall extend its use life, restore its image, reduce its running/energy costs and ensure its financial sustainability by turning it into a modern and lively urban athletics and leisure destination, with a view to the transfer of the Centre to the Hellenic Corporation of Assets and Participations.				
	11	Q1 2023	4/6	Notification of the award of the contract(s) for the appointment of private sector partner(s) to carry out, by end-2023, the construction and renovation works that shall enhance energy efficiency for (i) Central Stadium; (ii) Mechanical and Electrical works; and (iii) outdoor areas and start of works.
		Q2 2024		Completion of all works to achieve energy efficiencies and improve carbon footprint
Reform: Energy poverty action plan (measure ID: 16920) The reform consists of the adoption of an action plan to address the challenge of energy poverty. In 2019, about 18% of the total population were reportedly unable to heat their homes compared to about 34% in the subset of the economically vulnerable population (Eurostat, EU-SILC Survey). The strategy shall outline targeted policy measures to improve energy efficiency of residential buildings among economically vulnerable households.				
		Q3 2021	1	Entry into force of a Ministerial Decision by the Ministry of Environment and Energy adopting the Energy Poverty Action Plan, with three categories of policy measures in the Plan: - Awareness and information measures; - Measures for the short-term protection of the energy poor households, including (1) the definition of households experiencing energy poverty, through specific quantitative criteria, and (2) a specific process to monitor and evaluate the evolution of energy poverty, in line with the mechanism proposed within the Action Plan and in accordance with relevant EU legislation; and - Financing measures: establishment of funding mechanisms for the energy upgrade of residential buildings of energy-vulnerable households and other social groups with specific electricity consumption patterns. These financial measures shall address the energy poverty issues in Greece, as described under the National Energy and Climate Plan (NECP).
Investment: Energy and entrepreneurship (measure ID: 16874) The investment provides financial support to private companies for energy-efficient renovations of their buildings and processes. It includes two sub-programmes: (a) energy efficiency renovations in the tertiary and secondary sectors for medium, large and very large enterprises and (b) installation of energy efficient equipment in very small enterprises. Through the installation of energy efficient equipment and systems for energy conservation in production, storage, distribution of products and the operation of the companies, this measure contributes to increasing the energy efficiency of buildings and processes in line with the targets set out in the NECP and reduce greenhouse emissions.				
	450	Q2 2023/ Q4 2024	4/9	Approval by the Ministry of Environment and Energy of applications of 9.700 private sector entities ensuring that the greenhouse gas (GHG) emissions is reduced, on average, by at least 30% compared to the private sector entities' existing situation (as indicated through the energy audits performed prior to the interventions).

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment: Energy upgrade of public sector buildings and energy infrastructure of public entities (ID: 16876) This investment comprises the renovation of public sector buildings with a view to increasing their energy efficiency, through the involvement of energy savings companies (ESCOs). The investment also contains the energy upgrade of street lighting infrastructures. This investment contributes to meeting the energy efficiency targets adopted in the NECP and reducing GHG emissions. For the Energy upgrade of public sector buildings programme, the legal framework to enable Energy Performance Contracts has been established.				
	200	Q2 2023/ Q4 2025	4/9	By Q2 2023, approval by the Ministry of Environment and Energy of applications for 210 public sector buildings ensuring that the GHG emissions of these respective buildings is reduced by, on average, at least 30% compared to their existing situation (as indicated through the energy audits performed prior to the interventions). Completed by Q4 2025. Interventions to improve energy efficiency completed for public sector buildings (210 buildings) with GHG emissions reduction, on average, of at least 30%, as indicated through the energy audits performed prior to the interventions. Interventions to improve energy efficiency completed for selected private sector entities (9 700 private sector entities) with GHG emissions reduction, on average, of at least 30%.
Reform: Preparation of Urban Plans in implementation of the urban policy reform (measure ID: 16879) This reform consists of five actions: (a) the preparation of Local Urban Plans (covering municipalities or municipal units), (b) the preparation of Special Urban Plans (plans that can cover areas belonging to more than one municipality), (c) the definition of the Development Rights Transfer Zones, (d) completing the delimitation of settlements, (5) addressing land use issues related to recognition of (municipal) road access. The reform shall address weaknesses and gaps in zoning and land use with a view to promoting sustainable economic activity and protecting the environment. The Local Urban Plans shall include a dedicated chapter on climate change measures and prevention and management of climate related risks.				
	250	Q4 2022/ Q4 2023/ Q4 2025	3/5/9	Overall, Local Urban Plans will be produced for 700 municipalities or municipal units; five Special Urban Plans, will be produced, Development Rights Transfer Zones will be defined in 50 municipal units, the delimitation of settlements will be determined in 50 municipal units and municipal roads will be determined in 120 municipal units. In total, measures will be implemented in at least 750 municipal units.
COMPONENT 3.1: PROMOTE JOB CREATION AND PARTICIPATION IN THE LABOUR MARKET				
Reform: Active Labour Market Policies Reform (measure ID: 16747)				
Contributing to green skills and jobs and the green economy	100	Q4 2023	5	Successful completion of a comprehensive upskilling/reskilling and short-term employment programme for at least 13 500 unemployed workers (aged 25-45) out of the total 15 000 beneficiaries 19% of allocated funds are expected to contribute to green skills and jobs and the green economy
COMPONENT 3.2: EDUCATION, VOCATIONAL EDUCATION AND TRAINING, AND SKILLS				
Reform: Strengthening the Apprenticeship System (measure ID: 16794) The aim of the reform is to re-establish the apprenticeship vocational schools of the public employment service (OAED EPAS) as an integral part of the government's strategy for vocational education and training (VET) and youth employment. Notably the reform includes 6) renovation of EPAS buildings to improve energy efficiency and spatial functionality; 9) construction of schools for professions related to the green transition; 12) financing a communication campaign to promote the apprenticeship system. A dedicated part of the allocated grants shall contribute to green skills and jobs and the green economy.				
Energy efficiency renovation or energy efficiency measures regarding public infrastructure	108	Q4 2025	9	Completion of digitisation of at least 250 training courses of the OAED Apprenticeship Vocational Schools (EPAS). The objective of the measure is to simplify learning processes and incorporate new methodologies and tools such as e-learning platforms and digitalized training content, both for apprentices and trainers. The completed construction and renovation works shall achieve, on average, at least a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786 or (b) to achieve, on average, at least a 30% reduction of direct and indirect GHG emissions compared to the ex-ante emissions.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 3.3: IMPROVE RESILIENCE, ACCESSIBILITY AND SUSTAINABILITY OF HEALTHCARE Part of these measures focus on infrastructural, both physical and digital, and operational improvements to modernise and upgrade the hospital system and the network of health centres.				
Reform: Reform of the Primary Health Care System (measure ID: 16755) This reform foresees to 1) implement upgrade and energy efficient renovations and energy efficient measures regarding public infrastructure and medical equipment of at least 50% of the total health centres in the country (156 out of a total of 312)				
Energy efficiency renovation or energy efficiency measures regarding public infrastructure	189	Q4 2025	9	By Q4 2023, notification of award of contracts sent by the Ministry of Health to contractors for the renovation of at least 156 Health Centres (50% of total Health Centres in Greece) that shall upgrade through energy efficient renovations and energy efficient measures regarding the public infrastructure and medical equipment. The notification of award shall be accompanied by a sample contract specifying a timeline for completion supporting the completion date Q4 2025 and by a report highlighting main features of the works to be undertaken.
Investment: Health Infrastructure (measure ID: 16795) The investment consists of comprehensive interventions for the modernisation of the logistical infrastructure of hospitals throughout Greece, including the energy efficient renovation of buildings and the supply of new medical equipment.				
NHS Hospital Renovation and Infrastructure Upgrade	317	Q4 2025	9	By Q4 2025, completion of the construction and infrastructure upgrade, including electromechanical and electrotechnical infrastructure, accommodation facilities and infrastructure with amenities, medical equipment and devices, and conclusion of contracts for service level agreements (SLAs) and facility management for all 80 affected hospitals across the seven regions.
Investment: Project for the construction of a building dedicated to Cellular & Gene Therapies and Hematology Clinic Laboratories within the General Hospital of Thessaloniki "Papanikolaou" (measure ID: 16793) The investment foresees the creation of new buildings for the housing of the Laboratories of Cell and Genetic Therapy and Hematology Clinic at Papanikolaou Hospital, in order to keep its services in line with the increased requirements of patient care (malignant haematological diseases) and increasing demand for modern and technologies; it shall also upgrade the existing building for the transfer of laboratories and the day care unit. The newly constructed building shall comply with a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).				
	6	Q4 2025	9	By Q4 2025, completion of new three-stories building to house all specialized laboratories and special nursing unit; restructuring of the ground floor of the existing building to have enough space for outpatient clinics and day care for Papanikolaou Hospital and shall achieve a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives
COMPONENT 4.3: IMPROVE THE EFFICIENCY OF THE JUSTICE SYSTEM				
Investment: New Judicial buildings and renovations (measure ID 16292) The measure consists of a targeted investment for the construction and renovation of buildings that are part of the judicial system, closely linked with the revision of the judicial map, to maximize judicial efficiency and avoid unnecessary effort and expenses. All properties belonging to or used by the judiciary shall be recorded in an electronic identity registry in order to facilitate monitoring and planning. The newly constructed buildings shall all comply with a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Construction of new energy efficient buildings	69		1/3/5/9	
Energy efficiency renovations	27			
Identification – Eligible Buildings		Q3 2021		Compilation of a list of buildings not affected by the revision of the judicial map.
Judicial Buildings Construction and Renovation - List Adjustment – Launch of tenders		Q4 2022		Adjustment of the list of projects in alignment with the revision of the judicial map as adopted in the law. Launch of the tenders regarding administrative courts.
Contracts		Q2 2023		Award of contracts for construction projects not affected by the revision of the judicial map.
Judicial Buildings Construction and Renovation – Launch of tenders		Q4 2023		Adjustment of the list of projects in alignment with the law on the revision of the judicial map. Launch of the tender for the projects regarding civil and penal courthouses included in the revised list of renovations.
Construction and renovation works		Q4 2025		Completion of all remaining new buildings and renovations launched in Q1 2023 in line with the needs of the revised judicial map.
COMPONENT 2.2: MODERNISE				
Investment: New system for Public Procurements (measure ID 16736)				
	17	Q4 2022/ Q4 2025		Award of the contract for the project new system for Public Procurement by Q4 2022. By Q4 2025, completion of the new system for Public Procurements including (9) Building Information Modelling (BIM) system.
COMPONENT 4.6: MODERNISE AND IMPROVE RESILIENCE OF KEY ECONOMIC SECTORS				
Investment: Tourism Development (measure ID 16931) This investment aims to extend the tourism season in Greece beyond the summer months and promote alternative forms of tourism, contributing to economic resilience, sustainable growth and social and territorial cohesion. The investment comprises two parts: 1) Green Development: development of mountain tourism covering energy efficient renovations of public infrastructure and installation of new renewable energy sources' capacity, health and wellness tourism, agro-tourism and gastronomy. 2) Blue Development: upgrade of tourist ports' infrastructure through energy efficiency measures for existing buildings and infrastructure buildings, interventions to improve the governance, infrastructure and services offered in marinas, accessibility to beaches for older people and persons with disabilities, and to promote the development of diving and underwater tourism.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Energy efficient measures	111		2/5/6	
Energy efficient measures for public infrastructure	7			
Energy efficient measures for public infrastructure	1			
Tourist development: reforms for tourist ports		Q1 2022		(1) Tourist Development: Entry into force of legislation to reform the legal framework for tourist ports law to encourage new investments, including amendment of provisions relating to installation and operation licensing in line with the Investment Licensing Law 4442/2016. 2) Tourist Development: Entry into force of legislation to reform the legal framework for ski resorts to encourage new investments, including amendment of provisions relating to installation and operation licensing in line with the Investment Licensing Law 4442/2016. (3) Tourism Development: Establishment of Project Management Office for supervision of investments in upgrade of Tourist ports.
Notification of award of contracts		Q4 2023		Contract award process for Tourist port upgrades to improve energy efficiency shall be completed.
Tourist Development project completion		Q4 2025		Tourism Development: (1a) Completion of specified upgrading works on tourist ports to encourage tourism and private investments (1b) Completion of other tourism interventions to promote alternative forms of tourism and extent the season, including: - Green Development: improving destination management through the creation of local Destination Management office and associated Sustainable Tourism Observatories; development of mountain tourism covering energy efficient renovations of public infrastructure and installation of new renewable energy sources' capacity (wind); health and wellness tourism through thermal spring utilization; promotion of agro-tourism and gastronomy. - Blue Development: upgrade interventions to improve the governance, infrastructure and services offered in marinas, accessibility to beaches for older people and persons with disabilities, and to promote the development of diving & underwater tourism.

Investment: New Industrial Parks (measure ID 16634)

The financing support shall comprise of investments in a) infrastructure for the establishment of the new generation parks (including the acquisition of the land) with specific energy efficiency criteria for the construction of new buildings and energy efficiency and demonstration projects in large enterprises and supporting measures, b) infrastructure to digitally transform and create smart industrial areas, c) solar renewable energy, d) water management and water resource conservation (investments shall have an average Infrastructure Leakage Index (ILI) of <= 1,5), e) waste water collection and treatment systems compliant with energy efficiency criteria, f) electromobility (development of refuelling networks for electric or hydrogen vehicles or refuelling points for biomethane for transport), g) projects for the rehabilitation of industrial sites and contaminated lands. The construction of new building shall comply with a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Construction of new energy efficient buildings	7	Q1 2022/ Q4 2025	2/9	Launch of all competitive calls for proposals (completion of construction by Q4 2025) for the development of industrial parks for investments
Investment: Economic transformation on the Agricultural Sector (measure ID 16626) The investment consists of the following five actions to strengthen and promote the development of the agricultural sector in Greece: a) Innovation and green transition on processing agricultural products, b) modernisation of the primary sector, c) green tourism development, d) cultivation restructuring and e) animal genetic improvement. A dedicated part of the investments under a), c) and d) shall provide support on energy upgrade of production units and buildings, mechanical equipment with low energy consumption for the modernization of the existing production units.				
Energy efficiency and demonstration projects in SMEs	62	Q1 2022/ Q4 2025	2/9	
Reform: Amendment of the legal framework for the attraction of strategic investment (measure ID 16593)				
Construction of new energy efficient buildings	40	Q4 2021/ Q4 2023/ Q4 2025	2/5/9	Investments eligible for financing shall include projects that promote innovation or technology diffusion, use of renewables and transition to low carbon economy, and/or that significantly promote the competitiveness of the Greek economy at international level. Eligible investments shall comprise of investments in construction of new energy efficient buildings and support to enterprises that provide services contributing to the low carbon economy and to resilience to climate change, namely a) infrastructure with specific energy criteria for the construction of new buildings, b) hybrid power generation projects from RES in unconnected islands c) investments for the production of green hydrogen, d) systems for electric power storage produced from RES, and e) installations of offshore wind parks and offshore photovoltaic parks. The construction of new buildings shall comply with a Primary Energy Demand (PED) that is at least 20% lower than the NZEB requirement (nearly zero-energy building, national directives).
Investment: Upgrade of infrastructure, renewal of equipment and upgrade of quality of services provided by HOCRED Stores – former ARF Stores (On-spot and electronic) (measure ID 16536) This investment comprises energy efficiency measures, renovations, construction of the shops and workshops and provision of equipment for the physical and on-line stores and upgrades of the quality of services provided by the Hellenic Organization of Cultural Resources Development (HOCRED), which collects the proceeds from archaeological sites, historical sites, monuments and archaeological museums in Greece and manages these resources to support Greece's cultural heritage.				
	3	Q4 2025	9	
Investment: Museum of underwater antiquities (measure ID 16486) This investment shall restore through an energy efficient renovation an emblematic industrial building in Piraeus and shall reopen it as a museum of underwater antiquities. The investment aims to create added value from a cultural and tourism standpoint for the port city of Piraeus and the wider Athens area.				
	54	Q4 2023/ Q4 2025	5/9	Contract award on Museum of underwater antiquities by Q4 2023. By Q4 2025, completion of Museum of underwater antiquities: (1a) completion of energy efficiency works and (1b) organisation of permanent exhibition creating substantial added value for tourism and culture for Piraeus and the wider Athens area.
Culture as a driver of growth (ID: 16293)				
	30	Q4 2025	9	Completion of Culture as a driver for Growth Finalisation of sub-projects covered in Q2 2023 and completion of remaining contracts regarding the digital transformation of cultural production and distribution: providing support to Cultural and Creative Industries (CCIs) regional strategies; providing support to local craft ecosystems; broadening the use of archaeological sites and monuments as venues and events sites; promotion of the film industry. Completion of energy efficient renovations and energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures by upgrading existing public buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 4.7: IMPROVE COMPETITIVENESS AND PROMOTE PRIVATE INVESTMENTS AND EXPORTS These measures are complemented by the proposal to use loan support under the Recovery and Resilience Facility to facilitate the provision of financial incentives to the private sector, aiming to promote private investments. This loan support is expected to be channelled to the economy through three different channels, namely financial institutions (through corporate bond purchases or syndicated loans), an equity platform, and the utilisation of a part of Greece's InvestEU national compartment.				
Investment: Loan Facility (measure ID 16980) The investment concerns the use of loan support under the Recovery and Resilience Facility to facilitate the provision of financial incentives to the private sector, and promote private investments. The Loan Facility shall make use of different distribution channels, namely financial institutions (through corporate bond purchases or syndicated loans, EUR 11728 million), an equity platform (EUR 500 million), and the Member State compartment of the InvestEU Programme (EUR 500 million). In addition, the Loan Facility shall provide for a commitment for financial institutions and InvestEU to invest at least 38.5% of the funds to support the climate transition and 20.8% of the funds to support the digital transition. Independent auditors shall verify compliance with DNSH and with the 38.5% climate target and 20.8% digital target before each request for disbursement.				
Energy efficiency and demonstration projects in SMEs or large enterprises	1 398	Q2 2026	1/2/3/4/56 LOAN	
Smart Energy Systems	445	Q2 2026		
Other renewable energy	206	Q2 2026		
Digitalisation of large entreprises	770	Q2 2026		
Digitalisation of SMEs	330	Q2 2026		

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

MAGYAR ENERGIAHATÉKONYSÁGI INTÉZET

COUNTRY:

HUNGARY

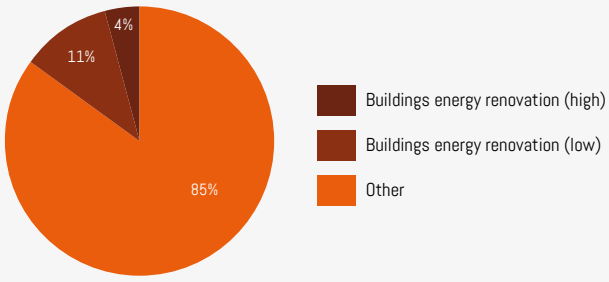
OVERVIEW:

Hungary's Country Profile is based on information provided by Renovate Europe's National Partner: the Hungarian Energy Efficiency Institute (MEHI). It focuses on the buildings elements of the Hungarian National Recovery and Resilience Plan (NRRP) submitted to the Commission in May 2021.
The Plan includes elements of building renovation across several components but unlike other plans it lacks a dedicated renovation component or targets. It can be strengthened by setting clear objectives and monitoring criteria for energy efficiency improvements as part of an integrated package, especially in the residential sector.

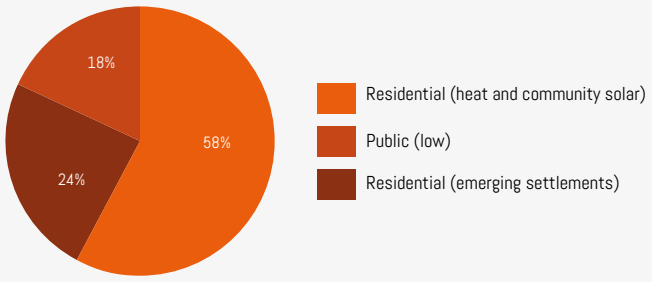
BUILDINGS IN THE CONTEXT OF THE PLAN

Hungary's final NRRP request was for approximately €7.2bn in grants and excluded the initially proposed use of loans. Unlike other plans, the NRRP has no designated energy renovation component or clearly set renovation targets. It includes building renovation elements across several components, including energy, education, workforce competitiveness, public health, demography and the 'Emerging Settlements' programme. The energy component includes a heat electrification and solar energy programme in the residential sector providing €444 m[1] for lower-income households. The Emerging Settlements component uses €184m to finance the construction of 600 social-rented homes and the renovation of 2,500 existing buildings to improve housing conditions. €32m is planned for community-owned solar projects, where revenue will be used for the improvement of housing conditions. Infrastructural development plans in the public sector cover university buildings (€179m), vocational institutions (€263m), day care nurseries (€111m). They include both renovation and new construction, but there is no further detail of the split between them. The share of funding allocated to infrastructural development in the public health sector cannot be clearly identified.

Share of NRRP funding for buildings energy renovation (%). Buildings (low) assumes 25% of "infrastructure development" funding in the public sector is allocated to building measures, buildings (high) assumes 75% is allocated. In both cases it is assumed that residential and Emerging Settlements funding is 100% allocated to buildings.



Energy renovation by sub-sector, assuming 25% of "infrastructure development" in the public sector is allocated to buildings (%)



National Challenges

In 2018, buildings were the largest contributor to final energy consumption (45% of the total) and CO2 emissions from fuel combustion in Hungary (23%). At a strategic level, Hungary's National Energy and Climate Plan (NECP) prioritises the decarbonisation of energy production and energy security, with less focus and articulation of energy efficiency priorities. A Study for the EC [2] based on 2012-2016 data estimates that only 0.9% of renovations in the residential sector were medium depth and 0.1% deep renovations. Only 1.8% of those in the non-residential sector were medium, and 0.2% deep.

[1] Exchange rate H1 2021 average: HUF 1 = EUR 0.002795

[2] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Hungary's NRRP does not include a dedicated energy renovation or buildings component. The energy efficient renewal of public educational buildings, day nurseries, universities, vocational training, and health institutions' buildings is planned, but funding is not dedicated specifically for energy efficiency upgrades, and no energy performance criteria or indicators are attached in most cases. Where stated, targets in the public sector have limited ambition, including grant support for 94 public education buildings and the renovation of 40 health buildings. The only clear energy component for health buildings is the requirement for energy demand of new buildings to be 20% lower than nearly zero performance levels. Further details are expected as part of technical specifications for public procurement documents. University buildings are the only ones with a clearly stated target of 30-60% (medium depth renovation) primary energy savings. In the residential sector, grant support for heat electrification is planned to reach 11,600 households with below-average income. Further building construction and renovation is planned as part of the Emerging Settlements programme aimed at 300 disadvantaged areas. In this context, renovation is not limited to energy improvements.

FINANCIAL LANDSCAPE AND PERSPECTIVE

The NRRP does not allocate specific funding for energy efficiency improvements. Existing (and newly developed, for the period 2021-2026) Operational Programmes provide some funding, including 'KEHOP plus' for the residential sector and 'TOP plus' for municipal buildings. A new energy efficiency obligation scheme for energy suppliers was introduced in 2021 as the main policy tool to promote and finance energy efficiency measures, but details of the scheme are still to be determined. Its budget is expected to come from KEHOP Plus, with elements of both non-refundable and refundable funding for obligated parties, but the details are yet to be defined. At present KEHOP plus provides refundable and non-repayable grants, while TOP provides non-refundable grants covering 100% of costs. Like the NRRP, KEHOP plus considers energy efficiency a part of renewable energy priorities, and does not have specific targets, which can risk promoting measures with shorter payback times over more comprehensive renovations. The NRRP and LTRS do not provide detail on expectations for drawing in private capital.

MULTIPLE BENEFITS AND INTEGRATION

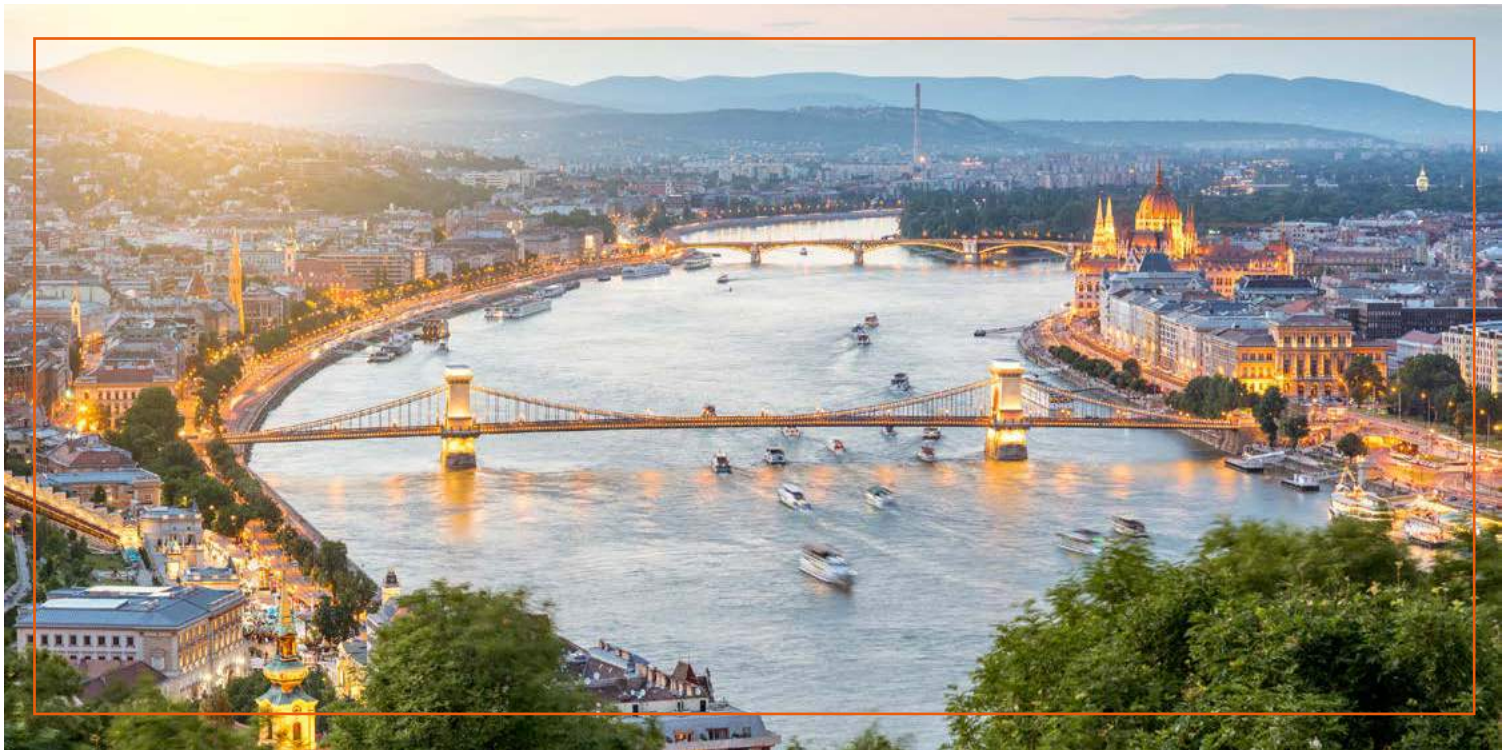
The Plan's heat electrification and solar photovoltaics sub-component is focused on lower-income households, with selection criteria also accounting for local air pollution. The 'Emerging Settlements' component foresees renovation of buildings as a social policy element targeting disadvantaged areas, in the context of extending basic social and public services. The NRRP supports heat decarbonisation through heat pumps and solar power, but without linking possible interventions to energy efficiency improvements, potentially creating energy poverty risks. The final NRRP no longer addresses the installation of smart meters, and no other clear measures linking digitalisation with energy renovation and buildings are considered.

SUPPLY CHAIN AND PROJECT SUPPORT

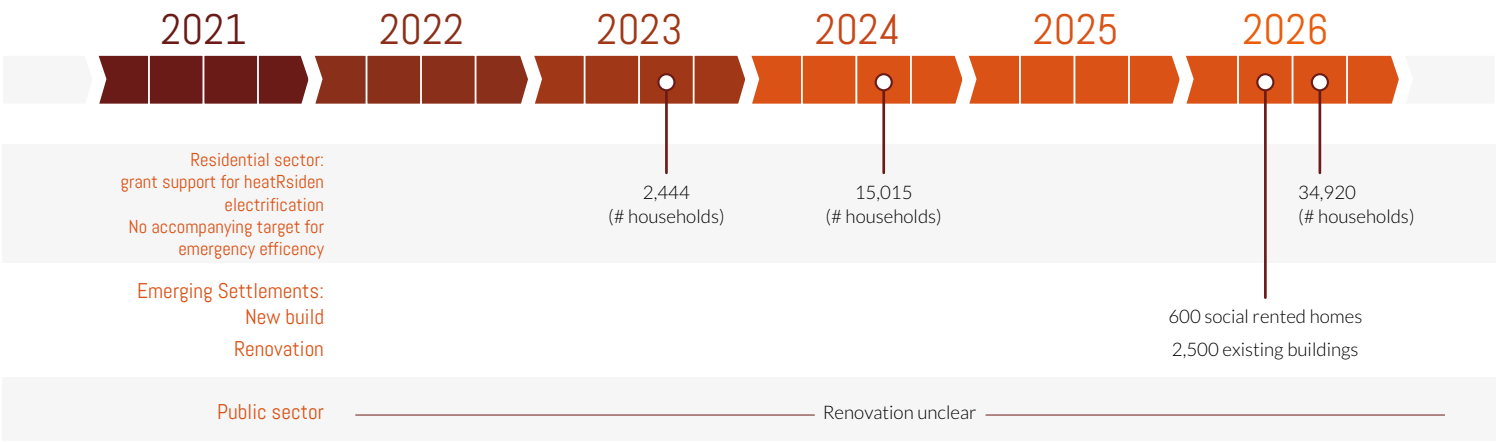
Hungary's NRRP does not include any specific information on funding for technical assistance or project take-up support such as one stop shops. General support for vocational training and higher education is foreseen, although it is unclear whether it would extend to energy efficiency and construction industries.

IMPLEMENTATION FRAMEWORK

The Prime Minister's Office is responsible for the coordination of the Recovery Facility and Multiannual Financial Framework funding in Hungary. Due to the allocation of building measures as part of other NRRP components, no single ministry is responsible for their implementation, creating implementation risks. In most cases targets are specified for 2026, without interim milestones (except for day-care nurseries and the residential heat electrification component). The NRRP foresees using the existing monitoring and information database system to report progress on implementation.



TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Hungary's NRRP integrates activities on building infrastructures across several key strategic pillars but does not clearly draw out the extent to which these measures will support energy efficiency improvements across the building stock, which makes assessment of the Plan's impacts challenging. To ensure that the Plan contributes to Hungary's ability to scale up the rate of deep renovations to 2030, further steps should be taken:

- Set more ambitious and measurable dedicated targets for energy renovation, including deep renovation, to deliver energy consumption reduction and lower emissions
- Ensure energy efficiency and heat decarbonisation measures are coupled with the Plan, with a priority focus on renovating buildings first and reducing heat demand by applying the Energy Efficiency First Principle to avoid resource waste and potential high-cost impacts.
- Consider measures for upskilling existing energy professionals for deep renovation while increasing the overall number and support technical assistance to overcome behavioural barriers and information gaps.

NOTE

The survey was complemented with a targeted desk-based review of Hungary's National Energy and Climate Plan to contextualise its NRRP.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

IGBC
IRISH GREEN BUILDING COUNCIL

COUNTRY:

IRELAND

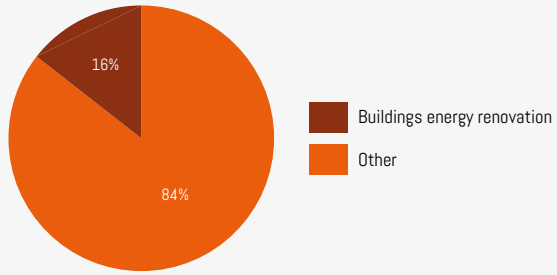
OVERVIEW:

Ireland's Country Profile is based on information provided by Renovate Europe's National Partner: the Irish Green Building Council. It focuses on the buildings elements of Ireland's National Recovery and Resilience Plan (NRRP). The responses were based on the summary of Ireland's NRRP published on July 16, 2021. A detailed version of the NRRP remains unpublished despite the fact that it has already been positively reviewed by the European Commission.
Based on information available to date, the plan focuses on increasing energy efficiency and renovating public offices as well as the residential sector. While it designates funds to increase skills, the Irish NRRP would benefit from clear targets including to increase the depth of renovation and implement the goals on a wider scale. The investment need could be clearly defined, and private finance should play a larger role in the NRRP in addition to the goal of "De-risking a Low Cost Residential Retrofit Loan Scheme".

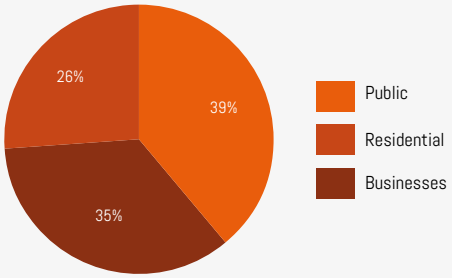
BUILDINGS IN THE CONTEXT OF THE PLAN

Ireland's NRRP includes investments of €989m combining national funds and the EU's Recovery Fund. NRRP priority 1: Advancing the Green Transition has been allocated the most significant share of funding of €518m (52%), out of which €369m will be climate related. Energy efficiency investment amounts to €155m (%16). €40m will go to the de-risking of a low cost residential retrofit loan scheme through the use of loan guarantees and €60m is allocated to a Public Sector Retrofit Pathfinder project and a Public Sector Buildings' Energy Retrofit Programme for deep retrofit of public offices. An accelerated decarbonisation of the enterprise sector through the provision of support for Irish SMEs and exporters to address their emissions is also foreseen and receives €55m. Further funding of €114m will be available under priority 3 which includes the SOLAS Green Skills Action programme covering energy renovation and NZEB upskilling as well as other skills for a low-carbon economy

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] based on 2012-2016 data estimates that only 0.6% of residential sector renovations were medium depth and 0.1% deep renovations. In the non-residential sector the shares were only 0.4% medium, and 0.1% deep. The Irish Green Building Council highlights the following as the main challenges to energy renovation in Ireland: lack of awareness of the benefits of energy renovations which mean they are not often being perceived as a priority; a clear need for low-cost finance solutions; a lack of trust in the outcome of energy renovations exacerbated by a labour and skills shortage; and a lack of certainty as there is no ringfenced budget for renovations covering 5-10 years in Ireland yet.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The Irish LTRS sets clear targets such as retrofitting 500,000 homes to an EPC of B2 or a cost-optimal equivalent or carbon equivalent by 2030 which translates to 50,000 homes a year. This extends to retrofitting 1 million houses by 2040 and 1.5 million by 2050 as well as installing 400,000 heat pumps in existing buildings by 2030. In the commercial and public sectors at least one-third of total commercial premises are supposed to be upgraded to EPC B by 2030. Ireland's NRRP touches on all of these sectors but does not include clear indications of overall energy and emission savings that the programmes aim to deliver. One of the focus points is the retrofit of public buildings. The proposed investment programme for them involves the upgrading of at least 5,400 m² of public office accommodation across Ireland, aimed at a minimum of a 50% increase in energy efficiency (building energy rating at least B). For instance, the deep retrofit of Tom Johnson House in Dublin (10,650 m² office block space) will aim to deliver 75% energy savings (rating A2). In the residential sector, the new loan scheme will aim to support projects delivering, on average, at least medium depth renovation (30-60% primary energy savings). In the enterprise sector, funding will be delivered through two existing funds - one targeting enterprises in the manufacturing sector and one targeting large, medium, small and micro enterprises. There are no clear energy saving targets identified for those programmes within the Plan.

FINANCIAL LANDSCAPE AND PERSPECTIVE

The Irish Long-Term Renovation Strategy (LTRS) does not provide a figure on its investment needs in the buildings sector. It refers to Ireland's National Development Plan 2018-2027 which incorporates €4.5bn to support energy efficiency improvements across the residential and public sector. The NRRP funding is relatively limited, but adds to the use of other EU funds such as €351m from the ERDF, €451m from the ESF+, €260m from the European Territorial Cooperation Fund, and €77m under the Just Transition Fund. In the residential sector, Ireland's NRRP focuses on leveraging private capital while addressing the energy renovation affordability challenge by setting up a low-cost residential retrofit loan scheme. The scheme would include a state loan guarantee provided to participating retail banks and other credit institutions, with requirements that at least 75% of disbursed loans finance energy retrofit. In the enterprise sector, funding would be dispersed through financing calls for projects through two existing funds. Challenge-based funding for research and development projects may provide early stage financing in the area of building decarbonisation, although the challenge calls are yet to be disclosed.

MULTIPLE BENEFITS AND INTEGRATION

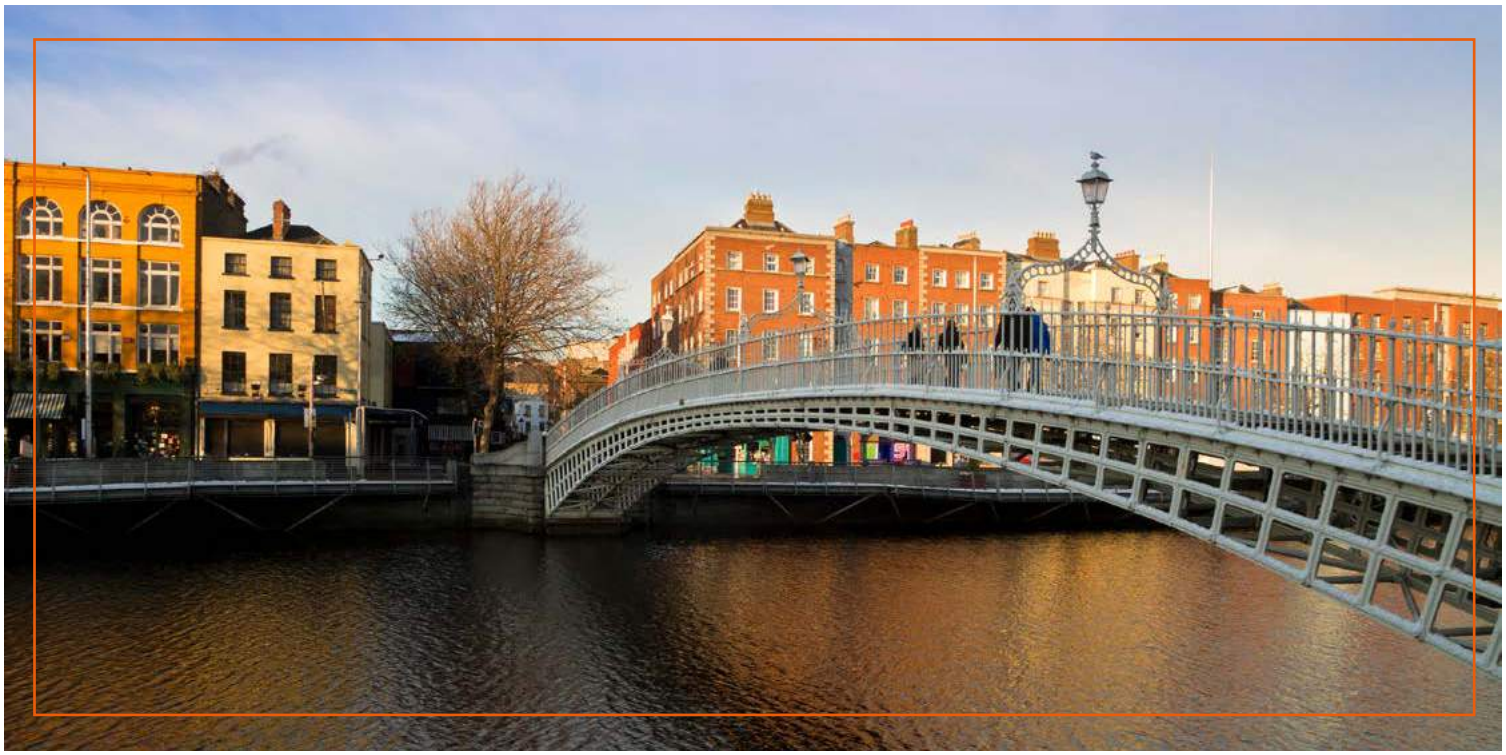
Ireland's NRRP does not explicitly focus on targeting renovation measures at specific groups for instance to address energy poverty. As the NRRP also includes a proposal for a carbon tax, ensuring that renovation measures are deployed among all groups, especially those at risk of energy poverty would be key. Heat and other decarbonisation measures are encouraged under the enterprise funds, while in the residential sector existing programmes such as the Air Source Heat Pump System Grants require properties to be "heat pump ready" (i.e. have low heat loss) to be eligible for support. It remains unclear if the new residential retrofit loan scheme will interact with such existing measures. Digitalisation is a strong focus in the NRRP in general, but its potential in the buildings and energy renovation sector remains unexplored beyond the inclusion of installation of energy metering and monitoring control systems under the enterprise funds. Based on available information it also remains unclear if the programmes will support the realisation of further potential benefits (e.g. adaptation, urban resilience, use of sustainable construction materials, clean air).

SUPPLY CHAIN AND PROJECT SUPPORT

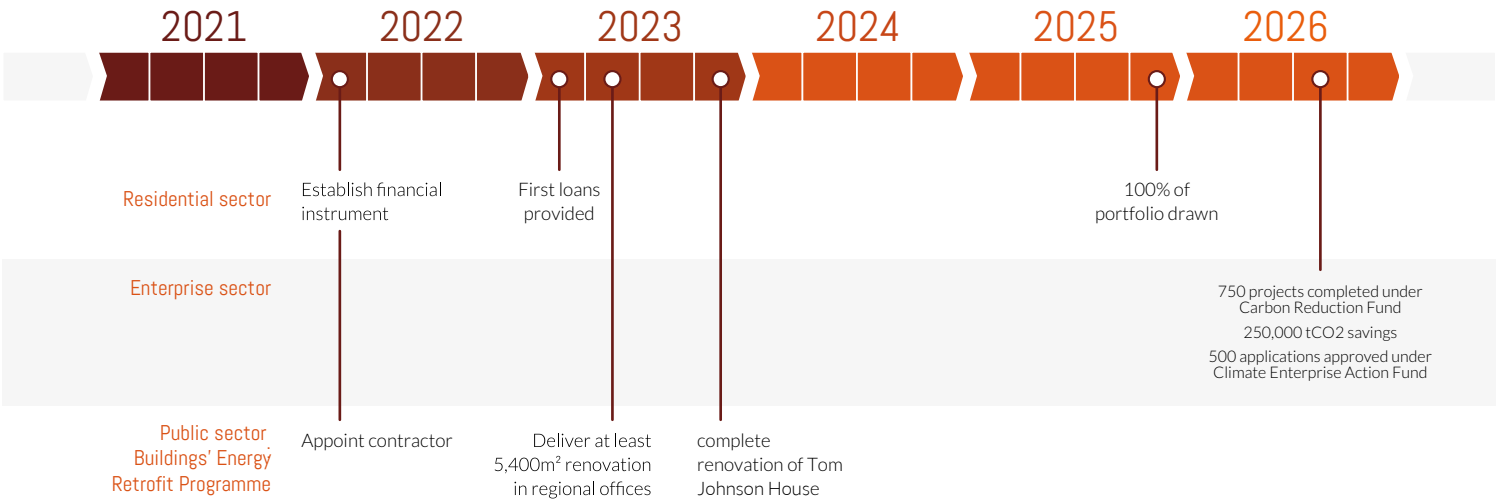
Ireland's NRRP includes a range of additional educational and training programmes expected to be rolled out as part of Skills to Compete and the establishment of the SOLAS Green Skills Action Programme focusing on providing training to address climate and low carbon economy issues. It includes a focus on providing the development of new modules in green skills and in Near Zero Energy Building and Retrofitting. Financing for technical assistance (e.g. setting up and supporting one stop shops) are not foreseen for residential or enterprise sectors. An ongoing annual awareness raising campaign will be put in place about one of the enterprise funds (Climate Action Fund).

IMPLEMENTATION FRAMEWORK

An NRRP Implementing Body will be established within the Department of Public Expenditure & Reform to oversee implementation of the Plan. Reporting to the Minister for Public Expenditure & Reform, this Body will act as the lead authority for Ireland and as the single point of contact with the European Commission. The programmes are expected to be short-term (until 2023), and the currently published version of the plan has no information about interim milestones for delivery.



TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

The Irish NRRP demonstrates a good mixture of measures to target different types of buildings, although the volume of investment under the Plan remains limited. The proposal for an economy-wide skills framework for low-carbon economy is a valuable framework to support activities around integrated renovation. To strengthen programmes and support the necessary step change in line with Ireland's LTRS objectives, further steps should be taken, including:

- Set quantifiable targets for overall energy or emissions savings across all NRRP and other programmes, in line with LTRS targets.
- Ensure that energy poverty is adequately tackled through measures that are accessible to all households, including lower-income households to avoid potential negative impact of foreseen carbon tax increases.
- Ensure that energy efficiency, decarbonisation and digitalisation strategies align to manage risks and unlock opportunities within the built environment in the context of energy system transition.

NOTE

The survey was complemented with a targeted desk-based review of Greece's Long-term Renovation Strategy (LTRS) to place its NRRP in context.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Irish NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1: ADVANCING THE GREEN TRANSITION The objectives of the component are twofold: • Strengthen the overall governance framework by enshrining key climate targets and associated institutional structures and processes into national legislation; and • Direct relevant funding towards decarbonising projects, such as retrofitting and investment in railways, whilst also enhancing ecosystem resilience and rehabilitation.				
Investment: 1.1 Derisking a Low Cost Residential Retrofit Loan Scheme The objective of the measure is to encourage private investment in energy efficiency by setting up a low interest rate residential retrofit loan scheme based on a loan guarantee to be provided by the state to participating retail banks and other credit institutions. It shall achieve on average at least medium-depth level renovations as defined in Commission Recommendation on Building Renovation (EU) 2019/786 of private residential homes and installation of renewable energy sources, in particular heat pumps. The loan guarantee shall allow banks and other credit institutions to offer loans with reduced interest rates to private homeowners and non-corporate landlords, who wish to borrow to finance energy efficiency upgrades of their homes and rental properties. As a result, households will be able to enjoy more comfortable and healthier homes with a lower carbon footprint. The loan guarantee is expected to help to increase the volume of retrofit activity within the State and improve the recovery and resilience of the supply chain within the retrofit sector. The scheme will also signal to the banking sector new viable business opportunities associated with the transition to a low carbon economy. The measure aims at leveraging a lending portfolio between EUR 300 000 000 and EUR 500 000 000. The investment of approx. €40 million sought from the EU Recovery and Resilience Facility will be combined with Exchequer's own investment of approx. €20 million to provide an upfront payment for losses expected during the lifetime of the guarantee scheme (i.e. funding the so-called 'First Loss Piece' of the guarantee [FLP]). The payment of this First Loss Payment shall also enable the participation of the SBCI and the European Investment Bank Group in the financial instrument.				
Establishment of the financial instrument: signature of contractual agreement between the relevant ministries and the SBCI and concluding the related investment strategy/ policy	30 (40+20 stated in plan)	Q1 2022	1	The relevant ministries shall conclude an agreement with Strategic Banking Corporation of Ireland, and the financial instrument shall be established, including the related investment strategy/policy, specifying that at least 75% of loans under the loan guarantee scheme shall be disbursed for financing retrofit works. The agreement shall ensure that on average, these retrofit works shall achieve at least a medium-depth level renovation as defined in Commission Recommendation on Building Renovation (EU) 2019/786.
First loan guarantee contract signed		Q2 2022	1	The contractual agreement to avail of the guarantee facility under the scheme shall have been signed by at least one participating credit institution and the guarantors.
Full disbursement loan portfolio		Q4 2025	5	100% of the overall loan portfolio of the loan guarantee scheme shall have been reported as drawn down by individual eligible borrowers. The unused proceed shall be committed to schemes pursuing similar objectives, and respecting the DNSH requirements described here above under milestone 1.
Investment: 1.2 Accelerate the Decarbonisation of the Enterprise Sector The objective of this investment is to support the decarbonisation of enterprises, foreign- and indigenous-owned, by incentivising the installation of energy metering and monitoring control systems, and increasing the uptake of carbon neutral low/medium temperature heating in the manufacturing industry. This investment consists in financing calls for projects through two existing funds. First, the investment shall provide funding to the Carbon Reduction Fund, targeting enterprises in the manufacturing sector, with a focus on carbon reducing technologies at a plant level, monitoring and tracking systems to begin accounting for the carbon footprint, and research, development and innovation that shall facilitate emissions reductions (1.2.1 Accelerate the Decarbonisation of the Enterprise Sector Accelerate the decarbonisation of the enterprise sector - Carbon Reduction Fund). Second, it shall support the Climate Enterprise Action Fund, targeting Enterprise Ireland and Local Enterprise Office clients (large, medium, small and micro enterprises) (1.2.2 Accelerate the Decarbonisation of the Enterprise Sector - Climate Enterprise Action Fund). This fund targets identification of CO2 abatement opportunities for companies, projects for lower-carbon products, and research and development of new low carbon products. Only high efficiency, eco-design compliant boilers shall be eligible for support under this measure. The investment shall be completed by 31 August 2026.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Carbon Reduction Fund - Projects completed	30+25	Q3 2022 Q3 2026	5	At least 750 projects shall have been approved under the Carbon Reduction Fund And at least 250 000 tons of estimated CO2 shall have been abated from the installation of low carbon technologies. This shall be confirmed through self-reported emissions abatement by enterprises in receipt of the funding for capital installations.
Climate Enterprise Action Fund - Completion of awareness campaign on the fund		Q3 2026	5	An annual ongoing awareness campaign shall have been completed by Enterprise Ireland, which shall have included national and local radio coverage, to promote the uptake of the supports available from the Climate Action Fund.
Climate Enterprise Action Fund - Approval of applications for funding support		Q3 2026	5	At least 500 applications for funding support shall have been approved
Investment: 1.3 Public sector buildings' energy retrofit programme The objective of this investment is to finance a major upgrade of public office buildings by investing in energy efficiency and modernisation upgrades in order to significantly reduce their carbon footprint and prolong their useful lifespan. The investment shall contribute to sustainable and strategic management of the public building stock, reduce energy consumption and greenhouse gas emissions, and potentially serve as an example to feed into further similar projects across the entire State Estate Office Accommodation portfolio. The measure consists of: • The upgrade of at least 5 400 m^2 of public office accommodation located throughout Ireland. These regionally located office buildings are currently at or near the end of their useful economic life and have low building energy ratings (C3 or less). The upgrade is expected to achieve at least a 50% increase in energy efficiency (building energy rating of at least B). • Carrying out a deep retrofit of the Tom Johnson House in Dublin, an existing office block of 10 650 m^2. The project is designed so that the existing concrete structure and external brickwork facades can all be reused in adapting the external fabric of the building. The target building energy rating after refurbishment is A2 with 61 kWh/m^2/year primary energy use, which represents a 75% reduction in primary energy use.				
Main contractor starts retrofit works as per the Office of Public Works design and programme	60	Q4 2021	1	The main contractor shall have been appointed by the Office of Public Works and shall have commenced to effect the retrofit works on sites as per the Office of Public Works design and programme.
Retrofit works of regionally located office buildings are completed		Q2 2023	2	At least 5 400 square metres of office accommodation upgraded achieving at least a building energy rating B standard (50% improvement on building's current energy efficiency rating) shall have been completed.
Retrofit work of the Tom Johnson House is completed		Q4 2023	3	A full retrofit of the Tom Johnson House to building energy rating A2 standard (75% improvement on building's current energy efficiency rating) shall have been completed.
COMPONENT 3: SOCIAL AND ECONOMIC RECOVERY AND JOB CREATION This component of the Irish recovery and resilience plan contributes to addressing the following challenges: (ii) the need to address skill shortages and prepare the workforce for the green and digital transitions; (vii) the need to address shortages in social housing supply and improve housing affordability;				
Investment: 3.2 Solas Recovery Skills Response Programme The objective of the measure is to support the reskilling and upskilling of workers to take account of the challenges of the modern Irish economy and labour market. The investment consists in developing a range of additional educational and training programmes as part of the 'Skills to Compete' programme and to formally establish the 'SOLAS Green Skills Action' programme. Training programmes and modules shall be managed by all of the 16 Education and Training Boards. They shall notably focus on skills which are relevant for the twin transition and target sectors with employment opportunities, such as information and communications technology (ICT) programming, green construction and climate change mitigation.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Publication of all skill provision opportunities under the 'Skills to Compete' programme	29	Q3 2021	1	All 'Skills to Compete' skill provision opportunities shall have been published and made available for learners enrolment. They shall include opportunities in the areas of (i) digital skills, (ii) employability (transversal) skills and (iii) specific sector skills.
Publication of all Green skills provision and modules opportunities		Q4 2021	1	All green skills modules and provision opportunities shall have been published and made available for booking, listed by (i) Retrofit & Near Zero Emission Building (NZEB) expansion and (ii) newly developed green skills modules. They shall cover at least specific skills areas in NZEB and retrofit and a suite of green skills for upskilling and re-skilling. In particular, opportunities listed under (i) Retrofit & Near Zero Emission Building (NZEB) shall include specific skills training which may also enable the application of standards higher than NZEB. A reporting system shall have been put in place.
Participants in the Green Skills Action Programme and Skills to Compete Participation		Q4 2022	2	At least 81.250 additional participants shall have enrolled as compared to the number of participants having enrolled before the end of 2020, in at least one of the skill provision and modules opportunities under the SOLAS Green Skills Action Programme and the Skills to Compete Initiative.
Increase in the share of women under the age of 30 with a level of education attainment at level 5 or lower enrolled in the Skills to Compete Initiative		Q4 2022	2	At least 20% of participants enrolled in at least one of the skills provision and modules opportunities under the Skills to Compete Initiative shall have been women under the age of 30, with a level of educational attainment of 5 or lower in the National Framework of Qualifications, as compared to 14% of participants having enrolled before the end of 2020. Data on nationality shall also have been gathered.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

RENOVATE ITALY

COUNTRY:

ITALY

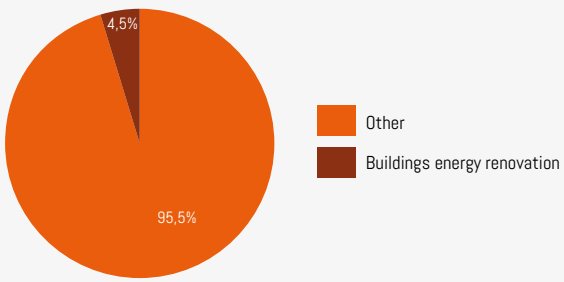
OVERVIEW:

Italy's Country Profile is based on information provided by Renovate Europe's Italian National Partner: Renovate Italy. It focuses on the buildings elements in its National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan allocates a significant amount of funding to energy renovation, especially for housing. The Plan could substantially benefit from clearer targets and metrics to help measure secured energy savings and provide clarity on its monitoring and implementation framework. Stronger integration of energy renovations with other priorities and the provision of technical support and supply chain skills development should also be considered.

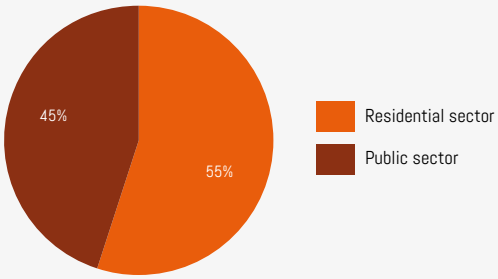
BUILDINGS IN THE CONTEXT OF THE PLAN

Italy's NRRP draws on €235bn in total, of which €191.5bn is from the EU Recovery & Resilience Facility, with the remainder coming from complementary national funds and the REACT EU Fund. According to Green Recovery Tracker analysis, €33.75bn (14.4%) of the total has been allocated to the buildings component of the Plan. Approximately €22bn is allocated to renovation, of which €15bn is funded through the NRRP. The measures that can be counted as contributing towards energy efficiency renovations make up €8.6bn. The majority (€4.7bn) is directed towards energy efficiency and seismic engineering of private and public housing through the existing 'Ecobonus' and 'Sismabonus' incentive schemes. They have been augmented by a new 'Superbonus' scheme, which offers 110% tax rebate for the purchase cost of technologies such as insulation of the building envelope, heat pumps and new boilers, solar PV and co-generation, and home automation. The scheme runs until the end of 2022. €3.9bn is allocated to school buildings requalification and safety. Other measures include the construction of new kindergartens, schools, and social housing, as well as improving cinemas, theatres and museums. Green Recovery Tracker analysis suggests that the overall impact on climate is not currently assessable for a majority of this funding.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that only **1.5% of residential sector renovations were medium depth and 0.3% deep renovations,** based on floor area. In the non-residential buildings sector only 4.9% were medium depth, and 0.6% deep renovations. Renovate Italy highlighted the stability of the tax credits scheme and the lack of its long-term predictability as well as the current level of bureaucracy as the main challenges for accelerating the rate and depth of renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Against the backdrop of Italy's NECP goal to accelerate the deep renovation rate to 0.7% per year in the residential sector by 2030, and 2.9% in the non-residential sector (excluding hospitals) Italy's NRRP sets the following goals for renovation: 209 ktoe per year of final energy savings (equivalent to 0.6% of the residential sector's final energy demand in 2018), a reduction of emissions by 718 ktCO2 per year, covering 195 schools, 48 judicial buildings, and 50,000 residential buildings per year. Projects aim to reduce energy consumption by 50% in schools, undertake 'shallow' energy renovation in juridical judicial buildings, and deep renovation in residential buildings. To be eligible, renovation in residential buildings needs to be classified as "deep renovation", realising an improvement of at least two energy classes (40% primary energy savings). Most of the public sector programmes are not required to deliver at least medium depth renovation.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Italy's Long-Term Renovation Strategy (LTRS) estimates the investment need at €6.8bn per year by 2030, to which the NRRP is set to make a significant contribution. The Strategy foresees meeting this need by rationalising existing instruments, extending the range of beneficiaries, and by expanding the coverage using loans where appropriate. The Superbonus represents about 26% of public budget for residential renovation in the National Energy and Climate Plan. For 2022 and 2023, it is expected to achieve around one third of annual energy savings set in the NECP, and one third of annual renovation efforts in terms of area. Italy's NRRP centres on this scheme and the role of tax credits as an incentive to increase energy efficiency. While the Superbonus scheme requires upfront capital, it is then fully refunded and the Plan does not provide a long-term strategy for leveraging private finance for renovation after the scheme stops in 2022. It calls for updating and strengthening the National Fund for energy efficiency with amendments entering into force to foster the enhancement and greater use of available resources.

MULTIPLE BENEFITS AND INTEGRATION

The tax credit schemes do not explicitly target energy poverty or low-income households, but the option to handover tax credit to those delivering the renovation or financial institutions means that all houseowners are able to participate without being taxpayers themselves. Italy's NRRP includes the target to build or extend networks for district heating to reduce energy consumption by at least 20 ktoe per year. The 'Ecobonus' tax credit covers measures to decarbonise heat (heat pumps but also condensing gas boilers in hybrid systems), solar PV and smart, digital heating and cooling controls alongside energy efficiency improvements, while the 'Sismabonus' scheme incentivises seismic renovation. The Superbonus is complemented by additional measures (e.g. solar PV, EV charging infrastructure, accessibility improvements) if they are carried out at the same time as the core improvements that qualify for 110%. The tax credit can apply to single and multi-family buildings, and can be claimed by building owners, installers, or banks. The schemes do not explicitly adopt the Energy Efficiency First Principle, although it encourages combined interventions.

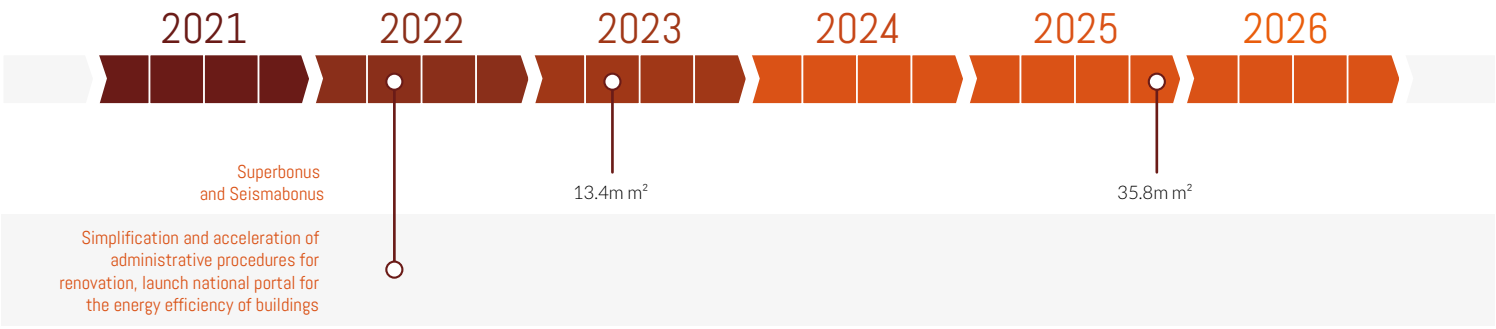
SUPPLY CHAIN AND PROJECT SUPPORT

The NRRP includes one reform aiming to simplify and accelerate procedures for energy renovations, comprising two main actions. First, the launch of a national portal for the energy efficiency of buildings which includes setting up a one-stop shop to assist citizens and businesses. Second, information activities targeting the residential sector are strengthened through specific initiatives to close information gaps and provide training on available tax incentives to citizens. There are no measures targeting skills and training renovation of buildings or for energy professionals.

IMPLEMENTATION FRAMEWORK

To oversee the NRRP's implementation, a Steering Committee has been established at ministerial level, while an advisory body involving non-governmental organisations will engage in civil society dialogue. A central coordination and monitoring structure has been established at the Ministry of Economy and Finance, as well as a technical secretariat run by officials. In addition, an independent auditor for the implementation of internal control systems has been set up; technical coordination structures are to be identified at the appropriate levels of central administrations. Italy's NRRP sets interim milestones for the Superbonus, which has been active since Q2 2020 and aims to support the renovation of 13.4m m^2 by Q2 2023 and 35.8m m2 by Q4 2025 – approximately 0.6% of Italy's total residential, commercial and public buildings floor area. In the public sector milestones are less clear.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Italy's NRRP makes a very substantial financial contribution to its tax credit schemes, covering a potentially holistic range of renovation measures, including earthquake resilience and accessibility, in addition to its primary focus on energy savings. Support for condensing gas boilers in hybrid heating systems needs to be carefully qualified, and clearer metrics and principles could enhance the conditions for scaling up the rate of deep renovations to 2030. Furthermore, implementation can be enhanced by:

- Providing clarity on prioritising energy poor households, the worst-performing buildings and implementing the Energy Efficiency First Principle;
- Providing visibility to supply chain actors and to consumers on the evolution of the generous but short-lived tax credit stimulus over time, and ensure it fosters longer term benefits through a sustained and growing market for renovation;
- Setting out the metrics to use to define and monitor that energy savings deliver the emissions reduction targets, especially through renovation, to ensure it complies with NRRP requirements and gives priority to deeper renovation;

NOTE

The survey was complemented with a targeted desk-based review of Italy's Long-term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the same draft Plan.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Italian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
MISSION 1 COMPONENT 3: Tourism and Culture 4.0 This component of the Italian recovery and resilience plan focuses on relaunching two sectors heavily hit by the Covid crisis: culture and tourism. The measures related to the culture sector aim at making cultural sites more accessible both digitally and physically, more energy efficient and safer with respect to natural disasters, at supporting the recovery of the cultural and creative sectors, including by supporting the attractiveness of small cultural sites and rural architecture as also to enhance territorial cohesion.				
Investment 1.3: Improve energy efficiency, in cinema, theatres and museums The measure shall improve the energy efficiency of buildings linked to the cultural and creative sector. They are often found in outdated, energy inefficient facilities that generate high maintenance costs related to air-conditioning, lighting, communication and safety. The investment shall finance actions to improve the energy efficiency of Italian museums, cinemas and theatres (both public and private).				
	210	Q3 2023 (1st batch)	2 (LOAN)	80 interventions concluded as proved by the certification of regular execution of the works. The type of interventions to be completed include: - technical and economic-financial planning, energy audits, initial environmental analyses, environmental impact assessment, reliefs and assessments aimed at identifying critical issues, identification of the consequent interventions for the improvement of energy performance; - interventions on the building envelope; - interventions of replacement/acquisition of equipment, tools, systems, devices, digital application software, as well as accessory instrumentation for their operation, the acquisition of patents, licenses and know-how; - installation of intelligent systems for remote control, regulation, management, monitoring and optimisation of energy consumption (smart buildings) and polluting emissions also through the use of technological mixes.
		Q4 2025 (second batch)		420: 55 interventions on State museums and cultural sites, 230 theatrical halls and 135 cinemas concluded with the certification of regular execution of the works.
Investment 2.1: Attractiveness of Small Historic Towns This investment is integrated in the "Piano Nazionale Borghi", a programme to support the economic/social development of disadvantaged areas based on the cultural regeneration of small towns and the revitalisation of tourism. The actions are structured around integrated cultural locally-based projects.				
	560	Q2 2025	2/8 (LOAN)	1300 interventions concluded for the enhancement of cultural and tourist sites, demonstrated by individual certificates of regular execution (restoration and redevelopment of cultural heritage, buildings intended for cultural and tourist services, small tourist infrastructures). 37% of the interventions shall be carried out in less developed regions. The satisfactory fulfilment of the target also depends on the support of at least 1 800 SMEs for projects in the Small Historic Towns
Investment 3.1: Development of the film industry (Cinecittà project) The objective of the investment is to enhance the competitiveness of the Italian film and audiovisual sector.				
Development of the film industry (Cinecittà project)_construction of energy efficient studios	165	Q2 2026	4 (LOAN)/ 10 (LOAN)	Construction of thirteen new studios
Development of the film industry (Cinecittà project)_energy efficiency renovations	65	Q2 2026	4 (LOAN)/ 10 (LOAN)	Renovation of four existing theatres

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment 4.2: Funds for the competitiveness of tourism enterprises The measure aims at supporting firms operating in the tourism sector. It includes a tax credit for works aimed at improving accommodation facilities, a guarantee fund to facilitate access to credit for firms in the sector (through a dedicated section of the SMEs Guarantee Fund), the activation of the EIB Thematic Fund for Tourism to support innovative investment in the sector, an equity fund (National Tourism Fund) for the redevelopment of properties with high tourist potential. An additional financial instrument (FRI - Fondo Rotativo), shall complement the abovementioned measures to support firms operating in the tourism sector.				
Investment policy for the European Investment Bank Thematic Fund; The investment policy shall envisage that 50% of the fund is dedicated to energy efficiency measures		Q4 2025		Support to at least 150 tourism projects; The support provided through the European Investment Bank Thematic Funds shall be aimed at - supporting innovative investments for the digital transition - increasing the offer of services to tourism - encouraging the processes of aggregation of companies Disbursement to the Fund of total of EUR 350 000 000.
Investment policy for the National Tourism Fund				At least 12 real estate properties redeveloped for tourism by the National tourism fund which could reach 17 real estate properties considering the leverage effect. The support from National Tourism Fund shall be aimed at: - Investing for product, process and management innovation to boost the digital transformation of the supply of tourism services, - Investing ensure the quality of standards of tourist hospitality - promoting aggregations and the development of business networks. The fund is dedicated to the purchase, restructuring and requalification of Italian real estate properties to support tourism development in the areas most affected by the crisis or marginal areas (costal areas, minor islands, ultra-peripheral regions and rural and mountain areas).
				At least 3500 tourism enterprises supported by the tax credit for infrastructures and/or services; The support provided by the tax credit shall increase the quality of tourist hospitality through: -investing for environmental sustainability (renewable sources less energy-intensive) -redeveloping and raising quality standards of Italian accommodation facilities
Investment policy for the: SME Guarantee Fund, The investment policy shall envisage that 50% of the fund is dedicated to energy efficiency measures				A least 11 800 tourism enterprises supported by SME's Guarantee Fund. The beneficiaries of the SME's Guarantee Fund shall be SMEs in the tourism sector and young people under 35 years of age who want to set up a new business in the tourism sector.The support from the SME's Guarantee Fund shall be aimed at: - Investing in innovation of the supply chain - Investing in safety and environmental sustainability, - Investing in digitalization for acceleration of digital transformation/ innovation, - Supporting the raising of quality in services and the upgrading of accommodation facilities; -Promoting aggregations and the development of business networks.
Investment policy for the Fondo Rotativo The investment policy shall envisage that 50% of the fund is dedicated to energy efficiency measures	893		1 (LOAN)/ 3(LOAN)/ 9 LOAN	At least 300 enterprises supported by Fondo Rotativo shall include: - energy requalification interventions - interventions on the building envelope and renovation - interventions of full or partial replacement of air conditioning systems - interventions for the adoption of anti-seismic measures

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
MISSION 2 COMPONENT 3- <u>Energy efficiency and requalification of buildings</u> Energy efficiency is the cornerstone of this component, which is organised across three main pillars. • The first pillar is the introduction of a temporary incentive for energy and anti-seismic renovation of private real estate, through a tax deduction of the costs incurred for the interventions. The eligible interventions are those which increase the energy performance of the dwelling by at least by two categories of the Energy Certificate, achieving on average an improvement in energy consumption above 30%. • The second pillar of this component is the improvement of the efficiency and safety of public schools and judicial citadels. • The third pillar is aimed at stimulating construction and expansion of efficient district heating networks in urban areas. In addition, there are a number of reforms to simplify and accelerate the implementation of projects aimed at improving the energy efficiency of buildings.				
Reform 1.1: Simplification and acceleration of procedures for energy efficiency interventions This reform aims to simplify and accelerate the procedures for the implementation of interventions related to energy efficiency. It consists of four major actions:				
		Q2 2022		Launching of the national portal for the energy efficiency of buildings: The Portal shall support citizens and operators in managing energy efficiency projects and shall be an easy source for accessing information for decision-makers. It shall contain information on the energy performance of the national building stock, which is expected to help firms and citizens in their decisions of improving the energy performance of their property. A one-stop shop shall be set-up to provide assistance and all useful information to citizens and businesses relating to energy mapping of buildings, compliance with sector regulations, evaluation of the potential for efficiency and selection of priorities for action, including redevelopment plans in stages, the selection of the most appropriate promotional tools for the purpose, and the training of professional skills.
				Strengthening of the activities of the information and training plan aimed at the civil sector - The Information and Training Plan shall take into account the need to develop both specific initiatives aimed at filling the information gap of end users in the residential sector, and appropriate training activities on incentives and on the most effective interventions for companies that offer energy services, that carry out interventions and for condominium administrators. The Plan shall be developed taking into account the needs resulting from the Superbonus measure, in order to maximize its effectiveness and lay the foundations for a lasting culture of efficiency in construction.
				Updating and strengthening of the National Fund for energy efficiency: With the revision of the regulations for the establishment and management of the National Energy Efficiency Fund (Article 15 of Legislative Decree 102/2014, and Interministerial Decree of December 22, 2017) amendments shall enter into force to foster the enhancement and greater use of available resources.
				Accelerating the implementation phase of projects financed by the Central Public Redevelopment Programme EPAC program: A regulatory review shall be carried out aimed at promoting a more efficient management of resources specifically allocated to the Building Requalification Programme of the Central Public Administration (PREPAC).
Investment 1.1: Construction of new schools through building replacement and energy upgrading plan This measure shall focus on the progressive replacement of part of the building stock of public schools with the aim of creating modern and sustainable structures.				
	800	Q1 2026	10 (LOAN)	The plan is expected to target 195 school buildings, with a total of 410 thousand m^2. Completion of the construction of at least 400 000 square meters of new schools through building replacement resulting in primary energy consumption being at least 20% lower than the Nearly Zero Energy Buildings requirement

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment 1.2: Efficiency of judicial sites: Construction of buildings, requalification and strengthening of real estate assets of the administration of justice in an ecological vein The intervention focuses on the maintenance of existing assets, enabling protection, valorisation and restoration of the historical heritage that often characterises the administration's offices the Italian justice system. In addition to energy efficiency, the programme also aims to ensuring the economic, environmental and social sustainability of interventions through the use of sustainable materials and the use of self-generated electricity from renewable sources. The interventions shall also adapt the structures to reduce the seismic vulnerability of buildings. The indicative list of municipalities where the interventions shall take place is the following: Bari, Bergamo, Bologna, Cagliari, Florence, Genoa, Latina, Messina, Milan, Monza, Naples, Palermo, Perugia, Reggio Calabria, Rome, Rome, Trani, Turin, Velletri and Venice. The intervention shall not include natural gas boilers.				
	114		10 (LOAN)	Construction of buildings,requalification and strengthening of real estate assets of the administration of justice of atleast 289 000 square meters
Investment 2.1: Strengthening of the Ecobonus and Sismabonus until 110% for energy efficiency and building safety The Superbonus measure finances the energy and seismic renovation of residential buildings, including social housing as specified in Article 119 of the so-called 'Decreto Rilancio' adopted to address the adverse economic and social effects of the pandemic. The goal is twofold: 1) to make a significant contribution to the achievement of the energy saving and emission reduction targets set by the Integrated National Plan for Energy and Climate of Italy (PNIEC) for 2030, and 2) to provide counter-cyclical support to the construction sector and to private demand to offset the effects of economic downturn. The support is provided in the form of a tax deduction over five years. It is provided that beneficiaries, as an alternative to the instrument of tax deduction, may, instead of the direct use of the deduction, choose to use financial instruments (so-called "credit transfer" and "invoice discount"), to address the problem of the high initial investment costs. These alternative instruments provide that the tax deduction accrued by the beneficiary is made for an equal amount in: 1. a contribution in the form of a discount on the prepayment price from the supplier (i.e. construction companies, designers, or more generally the general contractor) who discount it directly on the invoice and recovered in the form of a tax credit reducing the cost of the initial investment; 2. a tax credit to be ceded to a financial institution, which will pay upfront the necessary capital. This mechanism offsets the possible disincentive of not making the renovation because of the high initial investment costs. The choice of the general contractor or the financial institution will be left to the beneficiary. Condominiums, single-family buildings, undivided housing cooperatives, non-profit organizations and voluntary associations, amateur sports associations and clubs and social housing may benefit from this tax incentive. To be eligible, the renovation must be classified as "deep renovation" (that is, a medium renovation according to Commission Recommendation (EU) 2019/786), thus entailing an improvement of at least two energy classes (corresponding on average to primary energy saving of 40%). The scope of eligible interventions covered by this measure is wide, including for instance driving interventions, towed interventions, thermal insulation of opaque surfaces, and interventions on air conditioning systems (condensing boilers; heat pumps; connection to efficient district heating networks under specific conditions; solar thermal; biomass boilers under specific conditions), PV systems with related storage systems or infrastructure for charging electric vehicles. Interventions to reduce the seismic risk of buildings are also part of this instrument and are expected to account for around 14% of the budget allocated. Two ministerial decrees of 6 August 2020 have already defined the technical requirements of the interventions and the procedures to certify compliance with the specific maximum requirements and costs. The Superbonus has already been active since 1 July 2020 and shall remain in force until 30 June 2022 (for social housing until 31 December 2022). Access to the benefit may be required for a further period of six months, in the case of works on condominiums or social housing, when at least 60% of the works has been carried out before the dates indicated above. In particular, the cost of installing gas-condensing boilers shall represent a small part of the overall renovation programme cost and be installed in order to replace oil-based boilers. To give more time to more complex interventions it is planned to extend the application of the measure for condominiums until December 31, 2022 and for social housing until June 30, 2023, regardless of the completion of at least 60% of the works.				
	12 053	Q2 2023	1/4/9	13 400 000 - Complete building renovation for, (i) at least 12 000 000 square meters which result in primary energy savings of at least 40% and increasing at least two categories in the energy efficiency certificate, (ii) renovate at least 1 400 000 square meters for anti-seismic purposes
		Q4 2025		35 800 000 - Complete building renovation for (i) at least 32 000 000 squaremeters which result in primary energy savings of at least 40% increasing at least two categories in the energy efficiency certificate, (ii) renovate at least 3 800 000 square meters for antiseismic purposes

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
MISSION 2 COMPONENT 4- Territorial planning and water resources				
Investment 2.2. Interventions for the resilience, the enhancement of the territory and the energy efficiency of the Municipalities The core of the planned interventions shall consist of making buildings safer against seismic and hydrogeological risks and shall also include actions in relation to climate change adaptation and to energy efficiency such as reducing energy consumption of buildings or making public lighting systems more efficient. The interventions shall consist of either small or medium public works depending on the financial amount at stake and the type of actions to be implemented. The former shall primarily relate to safety of schools, public buildings and municipal heritage, removal of architectural barriers and upgrades of the environment and landscape. The small public works shall have energy efficiency interventions as a horizontal objective.				
	3000	Q4 2023	5 (LOAN)	Complete at least 7 500 interventions for small public works. At least 30% of investments for small public works completed in municipalities are dedicated to energy efficiency of public lighting, of public buildings and/or at the installation of systems for the production of energy from renewable sources
		Q1 2026	10 (LOAN)	Complete at least 30 000 interventions for small public works. At least 30% of investments for small public works realized in municipalities are dedicated to energy efficiency of public lighting, of public buildings and/ or at the installation of systems for the production of energy from renewable sources
MISSION 4 COMPONENT 1: Strengthening the provision of education services: from nurseries to universities				
Investment 1.1: Plan for nurseries and preschools and early childhood education and care services The investment plan for the 0-6 age group is aimed at increasing the supply of childcare facilities by building, renovating and ensuring the safety of nurseries and preschools, to ensure an increase in the educational offer and the available slots for the 0-6 age group, and thus improve teaching quality. The measure is expected to encourage women's participation in the labour market and support them in reconciling family and professional life.				
		Q4 2025		At least 264 480 new places created for educational and early childhood care services (from zero to six years old) With the plan for the construction and redevelopment of kindergartens, the goal is to increase the available places, enhancing the zero to six years old educational service.
Investment 1.2: Plan for the extension of full-time The purpose of the measure is to finance the extension of school time in order to increase the educational offer of schools and make them open to the territory beyond school hours. The measure envisages the construction or renovation of canteen spaces for at least 1 000 structures to allow for the extension of school time. Extended schooling hours are expected to have a positive impact on the fight against early school leaving.				
		Q4 2026		At least 1 000 structures that can facilitate the extension of school time and the opening of schools to the territory beyond school hours: to build and upgrade canteens with the aim of increasing the number of structure that facilitate the extension of school time and the opening up of schools to the territory beyond school hours.
Investment 1.3: School Sports Infrastructure Enhancement Plan The measure aims at strengthening sport infrastructure and encouraging sport activities. Reinforcing sporting activity is expected to combat early school leaving, enhance social inclusion and reinforce personal aptitudes. The investment shall upgrade sports facilities and gyms attached to schools to ensure an increase in the educational offer and promote an increase in school time.				
		Q2 2026		At least 230 400 Sqm built or renovated to be used as gyms or sports facilities attached to school National register of school buildings and data deriving from the GPU monitoring of , valid on the national three-year program
Investment 3.3: School building security and structural rehabilitation plan The main objective of the measure is to contribute to climate recovery by enhancing school buildings' safety and energy consumption. In particular, the measure shall contribute to the improvement of energy classes and leading to lower consumption and CO2 emissions as well as to increase structural safety of buildings. Particular attention shall be paid to the most disadvantaged areas with the aim of tackling and eliminating economic and social imbalances. The investment shall not include the procurement of natural gas boilers.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
		Q2 2026		At least 2 784 000 Sqm of school buildings are restored. With the plan for structural and energy redevelopment for school buildings, it is expected to redevelop a total surface of 2 784 000 Sqm, corresponding to at least to 2 100 school buildings.
Reform 1.7: Reform of student housing regulation and investment in student housing The reform has the objective of encouraging private entities to set up student accommodation facilities, with the Ministry of University and Research contributing for a portion of the renting revenues for the first three years of operation of the structures. The aim is to triple available places for out-of-school students from 40 thousand to over 100 thousand by 2026. The envisaged investment aims at ensuring a widespread access to housing facilities so that a reasonable number of students may afford advanced education in their preferred field and location regardless of their socio-economic background.				
	960	Q2 2026	1/3/10	It aims to add 65,500 of sleeping accommodations to the current 40,000, thus significantly reducing Italy's gap with the EU average regarding the share of students provided with housing facilities (18% against the current 3% in Italy). The investment shall not include the procurement of natural gas boilers.
MISSION 5 COMPONENT 2: Social infrastructures, families, communities and third sector				
Investment 6 - Innovation Programme for Housing Quality The objective of this measure is to build new public housing accommodations and redevelop degraded areas, mainly focusing on green innovation and sustainability. The investment shall provide support to: (I) redevelop, reorganize and increase the offer for public housing; (II) regenerate areas, spaces and public and private properties; (III) improve the accessibility and safety of urban areas and the provision of services; (IV) develop participatory and innovative management models to support social and urban welfare.				
		Q1 2026		Support to at least 10 000 housing units supported (in terms of both construction and rehabilitation). The satisfactory fulfilment of the target also depends on the satisfactory fulfilment of a secondary target that is covering at least 800,000 squared meters of public spaces.
Investment 7 – Sport and Social Inclusion The objective of this measure is to regenerate urban areas focusing on sport facilities, in order to promote social inclusion and integration, especially in the most deprived areas of Italy. The funded projects shall support: (I) construction and regeneration of sports facilities, located in disadvantaged areas of the country including metropolitan suburbs; (II) the distribution of sports equipment for the disadvantaged areas; (III) the completion and adaptation of existing sports facilities such as:(for examples: functional recovery, restructuring, extraordinary maintenance, removal of architectural barriers, and energy efficiency).				
	350	Q2 2026	4/10	At least 100 interventions related to the contracts concerning sport facilities. The satisfactory fulfilment of the target also depends on the satisfactory fulfilment of a secondary target: the interventions completed shall cover an area of at least 200,000 squared meters.
MISSION 6 COMPONENT 1: Proximity networks, facilities and telemedicine for territorial healthcare assistance				
Investment 1.1: Community Health Houses to improve territorial health assistance. The investment project consists in the establishment and operationalisation of at least 1 250 Community Health Houses, through the activation, development and aggregation of primary care services and implementing (energy efficient) assistance delivery centres for an integrated response to care needs.				
	1600	Q2 2026	2/10 (LOAN)	The investment project consists in the establishment and operationalisation of at least 1 250 Community Health Houses, through the activation, development and aggregation of primary care services and implementing (energy efficient) assistance delivery centres for an integrated response to care needs.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

Ekubirojs

COUNTRY:

LATVIA

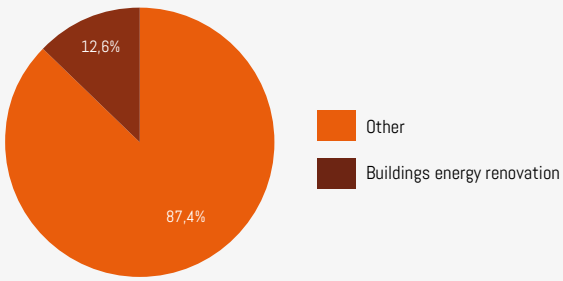
OVERVIEW:

This Country Profile is based on information provided by Renovate Europe's Latvian National Partner: Ekubirojs (ESEB). It focuses on the buildings elements in Latvia's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan sets targets for the number of multi-family buildings to be renovated in the context of the wider buildings strategy. The NRRP highlights that on its own it will be insufficient to reach national objectives for 2030. To accelerate programme delivery, further measures to integrate energy efficiency improvements and support supply chain and project take-up into a deep approach should be considered.

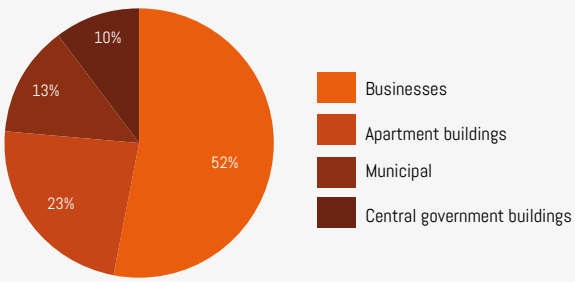
BUILDINGS IN THE CONTEXT OF THE PLAN

Latvia's draft NRRP included measures for €1.65bn in total, with the final request raised to €1.82bn. The draft Plan foresaw €139m investment in the buildings sector (~8.4% of the total,). This value increased significantly to €230m (12.6%, see chart below) in the final Plan. It is allocated to energy efficiency improvement and to renewable energy technologies, with the highest share going to businesses (€120m, as part of a combined financial instrument), followed by apartment buildings (€57m), municipal buildings and infrastructure (€29m), and central government, including historical buildings, (€24m). Energy efficiency measures also cover other elements of the energy system, with €80 million allocated to the modernisation of transmission and distribution networks.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that based on renovated floor area, only 0.9% of residential sector renovations were medium depth and 0% deep renovations. In the non-residential buildings sector that share was slightly higher - 1.3% were medium, and 0.3% deep. According to Ekubirojs, lack of private sector involvement to scale-up renovations, trust among stakeholders, and awareness of the existing opportunities are among the key challenges to increase the rate and depth of renovation. An additional challenge is that funding is disproportionately targeting the business sector. While business buildings receive 50% of the allocated funding, residential buildings are the biggest energy consumers in Latvia's building stock.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP makes direct links to the NECP and LTRS and sets clear targets across different property types. The targets, whilst modest in scale, are clearly defined in terms of carbon and energy savings. The NRRP will add 182 apartment building renovations to 370 already planned for funding via other EU funds. 821 projects have already been submitted under existing ERDF programmes. A gap will remain to reach Latvia's 2030 target of 2,000 apartment buildings and 838 central government buildings. To be eligible, measures are expected to deliver at least medium depth of renovation. Experience with existing programmes suggests average energy savings of 51% in municipal and 49% for residential buildings. Energy savings will be verified after project implementation, with commercial buildings requiring an additional energy audit.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Latvia's Long-Term Renovation Strategy estimates the investment required for renovation of the entire building stock to 2050 at €19bn, of which €5.7bn are needed to 2030. The NRRP allocates €138m (2.4%), but other financing tools and programmes are available. For example, apartment buildings can also use co-financing from Altum, a state-owned financial institution. For municipal buildings the NRRP is planned to work alongside 2021-2027 Operational Programmes. For historic buildings, an additional investment of €88m is also planned. The role of private sector financing for building renovations is not quantified or clearly elaborated in the residential sector, but financial instruments are foreseen for businesses. The Plan also includes the creation of a new Financing Fund for the construction of quality affordable housing for low-income households, with an overall value of €43m.

MULTIPLE BENEFITS AND INTEGRATION

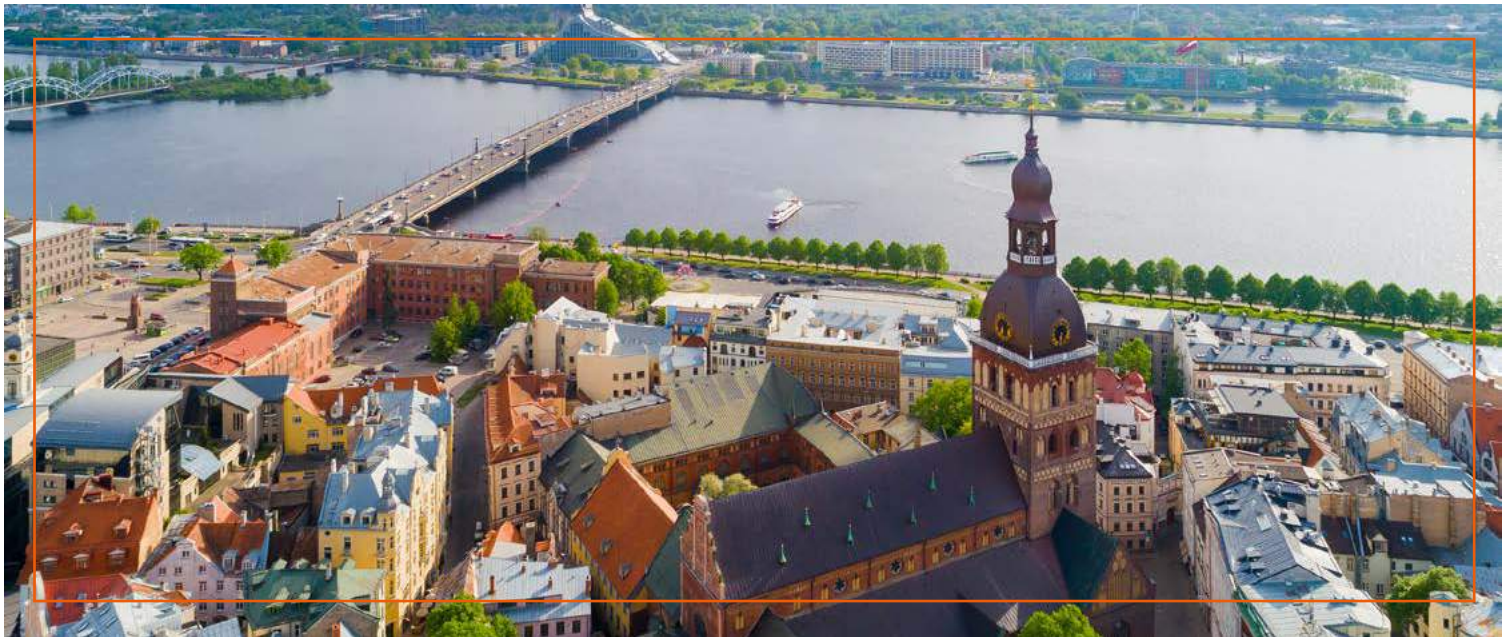
At present, the proposed measures are not explicitly targeting energy poverty. The NRRP does not indicate whether a holistic approach to heat decarbonisation and energy efficiency improvements will be encouraged, although the LTRS foresees increased use of renewable energy technologies in the building sector. Other planned activities, which are directly related to the synchronisation of Baltic electricity systems with the networks of continental Europe, are expected to contribute to the promotion of renewable energy resources like solar power. The Plan does not contain measures linked to digitalisation in the buildings sector, although other planed for measures around modernisation of data and tax service processes can have a positive impact. It remains unclear if the Plan will support the realisation of further potential benefits (e.g. adaptation, urban resilience, use of sustainable construction materials, clean air).

SUPPLY CHAIN AND PROJECT SUPPORT

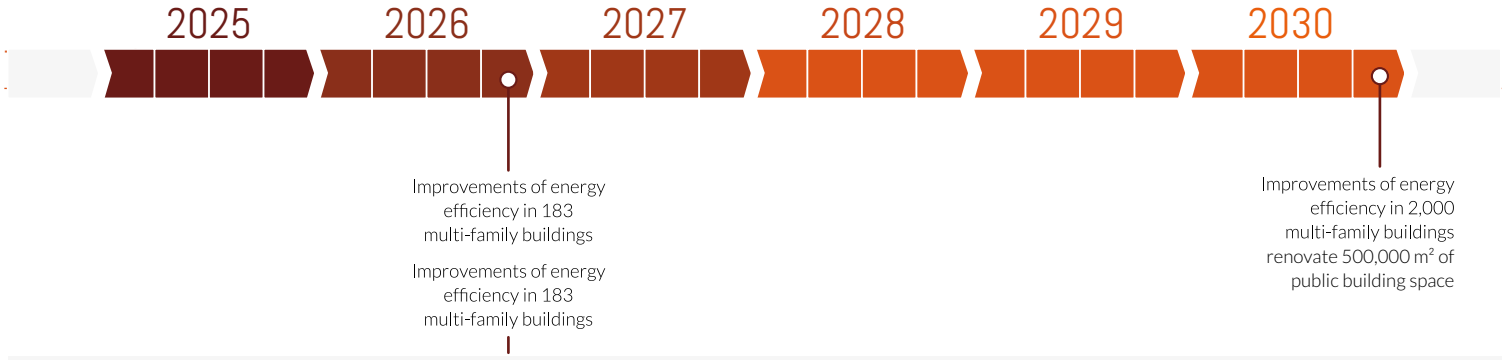
Latvia's LTRS indicates that the focus of activities to date has been on procedural improvements – e.g. certification of independent experts, with planned activities targeting improvement in vocational training, improving the construction information system and raising end-user awareness. The NRRP does not include specific measures to support skills and education in the construction and energy efficiency sectors or measures to drive project take-up (e.g. one stop shops, technical assistance). Research and Innovation Strategies for Smart Specialisation (RIS3) will focus on researching smart use of energy, energy efficiency, construction materials and waste management.

IMPLEMENTATION FRAMEWORK

The overall NRRP monitoring process is deemed as relatively clear and adequate by the European Commission assessment of the plan. At the level of building measures, however, there is insufficient detail on how the high-level objectives will be translated to practical implementation. Further details are required on how reporting and compliance with the requirements of the programmes will be monitored and what steps will be taken to scale private sector investment. Intermediate spending targets are in place for all programmes for 2023-2024, but energy savings targets tend to be backloaded towards 2026. Transparency and accountability are expected to be improved through the Procurement Monitoring Bureau (IUB) which is responsible for procurement procedures, helping suppliers and contractors, and collecting data on procurement in the country, with sanctioning powers. The IT reform of this governmental agency is expected to strengthen analytical capacity and to improve the availability of online services.



TRACKING/ TIMELINE TO 2026



Apartment buildings	14,423 MWh/year primary energy savings
Central government buildings	4,456 MWh/year
Municipal buildings	4,544 MWh/year
Commercial buildings	11,498 CO2e/year

RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

As highlighted by the NRRP itself, further investment is needed to achieve Latvia's building renovation goals, and yet more to scale up Latvia's renovation rate towards 3% by 2030. Latvia's NRRP can support the enabling conditions for scaling up the rate of deep renovations to 2030. To do this, further steps should be taken to:

- Raise awareness and promote education about the benefits of building renovation, including impacts on well-being, health, safety, and comfort. Review and assess the need to offer skills improvement & technical support to increase adoption.
- Engage the private sector in the implementation of Plan objectives, through enabling -public-private partnerships and co-designing solutions. Create a network of organisations already working in this sector (SMEs, NGOs, financial institutions) and develop and implement the one-stop-shop concept.
- Define renovation targets specifically for the residential building stock, with monitoring and implementation plans including milestones, to amplify the expected outcomes of the measures targeted at businesses.

NOTE

The survey was complemented with a targeted desk-based research of buildings elements in the Long-Term Renovation Strategy (LTRS) and National Energy and Climate Plan (NECP). Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the draft Plan published in January 2021.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Latvian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1: CLIMATE CHANGE AND ENVIRONMENTAL SUSTAINABILITY Subcomponent 1.2 mainly targets increasing energy efficiency by supporting various energy renovation programmes in public and private buildings and supporting sustainable energy networks. Subcomponent 2 which is almost entirely devoted to energy efficiency renovation projects will contribute to the energy efficiency target of the NECP. Investments improving the energy efficiency of multi-apartment buildings (1.2.1.1), of municipal buildings and infrastructure buildings (1.2.1.3) and public sector buildings (1.2.1.4) are respectively expected to lower primary energy consumption by 14 423 MWh/year, 4 544 MWh/year and 4 456 MWh/year according to the Plan.				
Investment: 1.2.1.1.i.I. Improving the energy efficiency of multi-apartment buildings and transition to renewable energy technologies The general objective of this measure is to improve the energy efficiency of buildings. As energy consumed in the buildings sector accounts for up to 40 % of the final energy consumption, the measure is expected to reduce the impact on the environment and contribute to climate change mitigation. Another aim is to reduce energy bills for inhabitants and increase the level of security of energy supply. Other specific objectives include reducing the level of energy poverty and supporting employment. This measure specifically focuses on multi-apartment buildings. The measure consists of a support programme for energy renovation in multi-apartment buildings. It shall take the form of a financial instrument (loan) with a capital discount of up to 49 % of the amount of the loan. Aid shall only be available for buildings where the project is expected to achieve at least 30 % energy savings. The measure shall be implemented from 1 September 2021 until 31 August 2026.				
	57.282.000	Q1 2022	2	Entry into force of support programme for improving energy efficiency in residential buildings with eligibility criteria to reflect requirements of applicable intervention field "025 bis – energy efficiency renovation of existing housing, demonstration projects and support measures meeting energy efficiency criteria" of Annex VI of the RRF Regulation
		Q3 2024	4	Approved projects by Altum representing at least EUR 40 097 400. Approval is undertaken by the development finance institution Altum.
		Q3 2026	6	14423 MWh/Year Reduction of primary energy consumption in multi-apartment buildings benefitting from improved energy efficiency renovations under the measure.
Investment: 1.2.1.2.i. Increasing energy efficiency in business, in the form of a combined financial instrument The general objective of this measure is to improve the energy efficiency of Latvian businesses. Investments in the energy efficiency of businesses aim to promote a rationalised use of energy resources, reduce negative impacts on the environment and climate, as well as improve the productivity, competitiveness and export capacity of enterprises. This measure specifically focuses on businesses. The first pillar of the measure consists in a support programme in the form of a combined financial instrument (loan with a grant in the form of a capital discount). The investment programme shall finance investments by enterprises in improving energy efficiency, introducing renewable energy technologies and related research and development activities, carrying out energy audits, as well as investing in sustainable transport and introducing new energy-efficient technologies in production. A second pillar of the measure shall consist in grants for the development (through industrial research, experimental development, feasibility studies) of new products and technologies related to the low carbon economy, climate resilience and adaptation.				
	120.586.000	Q1 2022	2	Entry into force of Regulation approved by the Cabinet of Ministers supporting the implementation of programmes to improve energy efficiency of businesses. The support programmes shall be implemented in the form of a combined financial instrument, which is a repayable loan and a capital discount. Mnimum primary energy saving of 30 % for energy efficiency projects in buildings and for equipment, a minimum of 30 % of average primary energy savings in the project portfolio of the RRF measure (with at least 25 % for energy efficiency equipment). In order to ensure that results are achieved, the conditions shall include a minimum threshold for energy savings per euro of public funding invested as an eligibility criterion for the project. Support shall be provided through competitive tendering for projects with the highest expected energy savings per one euro invested.
		Q4 2024	4	72 351 600 approved projects representing at least EUR 72 351 600.
		Q3 2026	6	11498 Greenhouse Gases emissions savings, in Co2 equivalent per ton, based on expected emission savings as a result of the measure.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment: 1.2.1.3.i.I. Improving municipal buildings and infrastructure by promoting the transition to renewable energy technologies and improving energy efficiency The general objective of this measure it to improve the energy efficiency of Latvian municipal buildings. A large part of existing municipal buildings had been built before thermal requirements for building were increased and therefore have a low energy performance. More specifically, the objective of the measure is to improve the energy efficiency of local government buildings and infrastructure in order to reduce annual primary energy consumption and reduce GHG emissions. As a complementary objective, this measure is also expected to reduce the cost of maintenance of municipal buildings. The measure consists of investments in energy efficiency renovation in buildings owned by local government (and mixed properties where the municipalities are majority shareholders), including buildings dedicated to social housing, health care, education and social services.				
	29.304.000	Q4 2022	2	Entry into force of Cabinet Regulation laying down implementing conditions for improvement of local government buildings and infrastructure, promoting the transition to the use of renewable energy technologies and improving energy efficiency, with eligibility criteria to reflect requirements of applicable intervention field "026 bis – Energy recovery or energy efficiency measures for public infrastructure, demonstration projects and support measures meeting energy efficiency criteria " of Annex VI of the RRF Regulation
		Q4 2024	4	Notification of the award of contracts for at least EUR 27 838 800.
		Q4 2025	5	4 544 563 KWh/Year: Reduction in primary energy consumption in municipal buildings and infrastructure resulting from energy efficiency improvement measures in municipal buildings and infrastructure supported under the measure. Energy certificates may be used to demonstrate the reduction in primary energy consumption. The measures shall aim to reduce primary energy consumption by at least 30 %.
Investment: 1.2.1.4.i.I. Improving the energy efficiency of public sector buildings, including historical buildings The general objective of this measure is to improve the energy efficiency of the Latvian public building stock. It applies to buildings owned by the central government including historical and judicial ones. The measure seeks to improve their energy efficiency, promote the transition to renewable energy in energy production, and achieve GHG emission reductions. The measure consists of investment in energy efficiency improvements for public buildings. The aid shall ensure that the implementation of all projects shall, on average, result in at least 30 % energy savings under the programme.				
	23.956.000	Q1 2022	2	Entry into force of a support programme for improving energy efficiency in national and historical buildings
		Q3 2024	4	Notification to beneficiaries of contract award representing at least EUR 16 769 200.
		Q3 206	6	4456 MWh/Year : Reduction of primary energy consumption in public buildings with improved energy efficiency resulting from the investments supported under the measure. Energy certificates may be used to demonstrate the reduction in primary energy consumption.
Reform: 1.3.1.r. Disaster management system adaptation to climate change, rescue and rapid response services The general objective of this measure is to contribute to climate objectives by strengthening the response capacity of disaster and fire rescue services. The measure consists of the construction of eight new energy-efficient disaster management centres. The measure shall contribute to climate adaptation by shortening the response time of fire rescue services (in the framework of a more general reform integrating different services of the Ministry of the Interior under one roof). The measure is also expected to contribute to climate mitigation by moving these services to new energy efficient buildings.				
1.3.1.1.i.1. Capacity building for rescue services, in particular the upgrading of the infrastructure and the logistical base of the VUGD	36.630.000	Q1 2026		8 newly built centres put into service. The investment shall be used for the construction of nearly zero-energy-consumption disaster management centres.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 3: REDUCTION OF INEQUALITY The component aims to reduce inequality by creating more jobs in the regions, improving regional connectivity and access to quality services, providing more affordable housing, improving the school infrastructure, helping to up-skill and re-skill workers and unemployed, strengthening the social safety net, improving accessibility to buildings for persons with disabilities, and new long-term care facilities for the elderly.				
Investment: 3.1.1.4.i. Establishing a financing fund for the construction of low-rent housing The general objective of this measure is to stimulate housing supply, provide affordable housing, contribute to regional labour mobility, and help attract and retain skilled professionals in the regions. The measure consists of the entry into force of a new legal framework for rents to ensure a fair balance between the interests of the tenant and the landlord and to ease the resolution of rental disputes; adoption of a housing affordability strategy; adoption of a low-rent housing regulation defining the size, scope and type of support and criteria for beneficiaries;				
		Q3 2026		The funding shall have been approved by national development institution Altum for the projects of at least 700 apartments; As part of the approved projects, housing shall be provided for a low rent (indicatively, EUR 4.40/m²). The approved projects shall meet high quality requirements: (1) the building shall be a nearly zero-energy building; (2) Appropriate quality tests (acoustic measurements, building air permeability test) shall be carried out at the time of entry into service.
				Projects finished with 300 apartments built and delivered in line with the following specifications: (1) the building shall be a nearly zero-energy building; (2) appropriate quality tests (acoustic measurements, building air permeability test) shall be carried out at the time of entry into service.
Investment: 3.1.1.5.i. Development of infrastructure and equipment of educational institutions				
		Q3 2026		Improvement of infrastructure of 20 general education institutions established by local governments according to specifications: investments may be envisaged for the improvement of the education institution physical environment - classrooms that met hygienic requirements, reconstruction of engineering networks (including ventilation systems), ensure sufficient and energy efficient lighting, and other ergonomic and modern education environment solutions.
Investment: 3.1.2.3.i. Resilience and continuity of the long-term social care service				
		Q3 2022		A standard construction design for the construction of 18 buildings necessary for the provision of long-term care services close to the family environment has been adopted by the Ministry of Welfare. The construction design shall be intended for the construction of highly energy-efficient buildings (nearly zero-energy buildings).
Investment 3.1.2.4.i. Synergistic development of social and occupational rehabilitation services for the promotion of the resilience of people with functional disabilities				
		Q1 2024	4	Adaptation of 2 buildings where the infrastructure shall be improved, including environmental accessibility and energy efficiency, and the improvement of the technical and material equipment

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

Fala Renowacji

COUNTRY:

POLAND

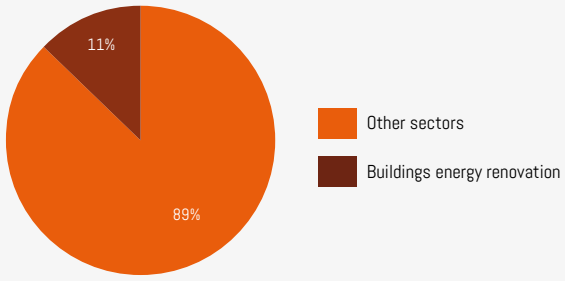
OVERVIEW:

Poland's Country Profile is based on information provided by Renovate Europe's Poland National Partner: Fala Renowacji. It focuses on the buildings elements of Poland's National Recovery and Resilience Plan (NRRP), submitted to the European Commission on 3rd May 2021. The Plan includes energy renovation as part of a significant investment in heat and energy efficiency. It can be strengthened by ensuring that energy efficiency improvements are actively encouraged as part of the extensive programme for exchanging old and inefficient heat sources in single-family homes, increasing technical assistance for end users and establishing clearer targets, milestones and monitoring procedures.

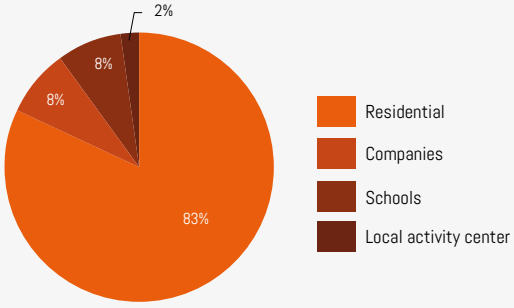
BUILDINGS IN THE CONTEXT OF THE PLAN

The final version of the NRRP includes measures for €36bn in total, comprising a request for €23.9bn in grants, and €12.1bn in loans. Around €7bn (19.7%) is allocated to building-related activities, at individual building level and through cities. More than half of the buildings funding (€3.9bn, 10.7% of total funding) is earmarked for renovation. This includes allocating €3.2bn to single- and multi-family residential buildings for energy efficiency improvements and heat replacements, and €300m for energy efficiency improvements in large enterprises, including building and process modernisation and renewable energy installations. €290m are allocated to schools, and €67m to local activity centres. An additional €2.8bn is foreseen as loans for new 'green' buildings in cities and €388m is dedicated to replacing old and inefficient district heat networks.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that only 1.5% of renovations in the residential sector were medium depth and 0% deep renovations, based on floor area. In the non-residential sector those shares were 2.3% medium, and 0.3% deep. According to the NRRP, an estimated 70% of single-family buildings do not meet energy efficiency standards and 3.5m houses use coal for heating. Lack of consistency between different support schemes, separate treatment of heat and energy efficiency measures and difficulties in leveraging private funding are among the key challenges for accelerated rate and depth of renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP's buildings part focuses on switching fuel for heat and modernising some public buildings. The targets include replacing inefficient heating in 860,000 single family buildings and modernising 1,300,000m2 of usable floor space across 320 schools. The programmes are expected to support the implementation of 'comprehensive' renovations, but there is a lack of technical detail or measurable objectives such as energy savings, energy performance or emission reduction targets. The 'comprehensive approach' in multi-family buildings should achieve primary energy consumption at the level of technical requirements for new builds, but without further detail. Individual grant levels may be linked to energy performance. The Energy Efficiency First Principle is referred to, but without details on implementation.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Poland's NECP estimates the overall investment need for modernisation of energy-production and use at €195 billion annually for 2021-2030. Since Poland has not submitted its LTRS, the investment needs for renovation and energy efficiency improvements are still to be defined. NRRP measures are planned for implementation under existing programmes: 'Clean Air', focusing on heat fuel switching in single family homes, and the Subsidy Fund and Thermo-modernisation and Renovation Fund, focusing on energy efficiency in municipal flats (at risk of fuel poverty) and multi-family housing. 'Clean Air' programme grants cover up to 60% of the costs of heat source replacements. The NRRP acknowledges links to other public finance mechanisms (e.g. Cohesion Fund) without providing details on how funding streams will complement each other and attract private capital.

MULTIPLE BENEFITS AND INTEGRATION

Some links between the renovation of buildings and other objectives are visible in Poland's NRRP, for example higher support for renovating municipal buildings to tackle energy poverty. The Plan includes measures to switch inefficient heat sources in 860,000 single-family buildings, however without requiring assessment of energy performance, potentially introducing energy poverty risks if measures are deployed in unsuitable properties. The Plan does not foresee concrete steps to encourage digitalisation in the buildings sector (e.g. smart buildings, automation and control systems). It places a strong emphasis on renovation to improving air quality and links the process to other objectives like climate change adaptation and decreasing environmental degradation in cities.

SUPPLY CHAIN AND PROJECT SUPPORT

The NRRP refers to a set of existing measures for project take-up and support, including the creation of a 'green list' for construction materials and products, and an energy calculator for beneficiaries. The provision of technical assistance for energy communities is a new measure for which the NRRP may provide additional funding. Programmes for upskilling, training or accreditation in the renovation and new heat technologies supply chains are not mentioned.

IMPLEMENTATION FRAMEWORK

Poland's NRRP mentions intermediate legislative milestones such as the amendment of the Energy Efficiency Law in Q3 2021 and an update of the National Programme for Air Protection in Q4 2021 – but it does not contain practical milestones. The NRRP indicates the intention to create an implementation Monitoring Committee consisting of representatives of the Polish government, NGOs, employers' associations, and regional administrations. While applications for the 'Clean Air' programme can be filed online, additional supporting measures, such as the creation for of a digital 'Central Register for Final Energy Savings' are foreseen.

TRACKING/ TIMELINE TO 2026

Legislative milestones are already set, but there are no clear Plan-specific renovation milestones and targets for interim delivery across different programmes.

RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Poland's NRRP sets out substantial investment in heating fuel switching, building on existing programmes, although the impacts and milestones could be more clearly articulated. The Plan can enhance the enabling conditions for scaling up the rate of deep renovations to 2030. To do this, further steps should be taken to:

- Set a clear timetable for programme delivery and create a robust governance framework to foster monitoring and accountability.
- Align the NRRP with a set of quantifiable targets for renovation rate and depth, energy savings and emissions savings, better integrating heating with efficiency measures.
- Ensure that the comprehensive renovation is present and efficiently implemented in the planned support schemes, with a stronger incentive to deep renovation in both residential and non-residential sectors.

NOTE

Green Recovery Tracker analysed the Polish NRRP draft that was published in February 2021 and is currently being updated. The Study was complemented with a targeted desk-based review of building elements of the Polish National Energy and Climate Plan (NECP). Poland has not yet submitted its Long-Term Renovation Strategy.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

ROENEF
THE ASSOCIATION FOR PROMOTING ENERGY EFFICIENCY IN BUILDINGS

COUNTRY:

ROMANIA

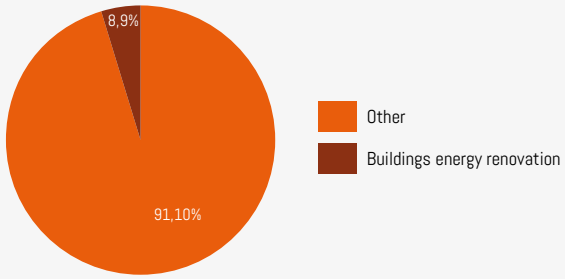
OVERVIEW:

Romania's County Profile is based on information provided by Renovate Europe's Romanian National Partner ROENEF - The association for promoting energy efficiency in buildings. It focuses on the buildings elements in the Romanian National Recovery and Resilience Plan (NRRP) submitted to the European Commission at the end of May 2021.
Romania's NRRP allocates significant funding for the Renovation Wave Fund, albeit a longer-term funding plan and further resources would be required to accelerate delivery at the necessary scale. The Plan can benefit from providing further details around targets and support to accompany delivery.

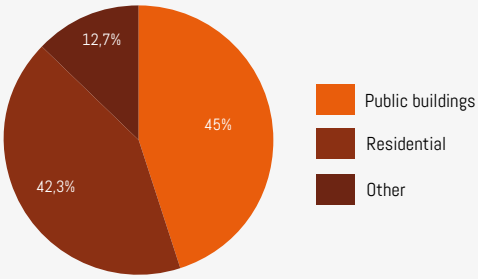
BUILDINGS IN THE CONTEXT OF THE PLAN

Romania's final NRRP has a total budget of €29.2bn of loans and grants. Nearly 7.5% (€2.2bn) of this allocation is earmarked to be spent as part of the "Fund for the Renovation Wave". It is split in nearly equal shares between energy renovation measures in multifamily residential properties (€1.1bn) and public buildings (administrative offices, buildings serving public services, including historic buildings) (€1.17bn). The Plan supports a range of enabling measures, including the realisation of the National Buildings Registry and implementation of the energy building passport - (€5 m); strengthening the professional capacity of specialists and construction workers for buildings with increased energy performance - development and operation of regional training centres - (€10 m); support to circular economy and increasing the energy efficiency of historic buildings – (€15m). Outside the specific Renovation Wave component, measures include the creation of a new financial instrument (portfolio guarantee) for energy efficiency for SMEs and individuals (€0.2bn). Another fund of funds will be created for larger enterprises (covering energy efficiency and renewable energy) (€0.1bn). Together with the Renovation Wave measures this brings the total renovation investment value to €2.6bn (8.9%). A further €2.6bn are earmarked for other building infrastructures like construction of new social housing and retirement homes, hospitals and healthcare facilities, and pre-school programmes.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that only 1.3% of renovations in the residential sector were medium depth and 0.1.% deep renovations (based on floor area). For non-residential buildings only 1.9% were medium, and 0.4% deep. According to Romania's LTRS, the main barriers to realise the transformation of the building stock are limited information about the building stock (lack of a national registry of buildings) and the lack of understanding of energy consumption and potential savings. Further challenges identified include labour market constraints, lack of incentives for energy renovation, access to financing products and low mobilisation of private financing, and deployment of smart and energy efficiency technologies.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Romania's NRRP aims to improve the energy efficiency of buildings through energy renovation and seismic consolidation of multifamily residential and public buildings. The plan contains no details regarding deep renovations or the application of the Energy Efficiency First Principle, but for measures under the Fund for the Renovation Wave pillar the aim is to reduce primary energy savings by at least 30%. The expectation is to deliver a total CO2 savings of at least 0,13 m. tons and total primary energy savings of at least 0,03 Mtep in the residential sector, and least 0,07 m. tons and total primary energy savings of at least 0,02 Mtep in the public sector. The energy saving goals for the measures which will be funded though financial instruments are not specified. However, the NRRP refers to the LTRS aiming to support the renovation of residential and non-residential buildings as well as promoting cost-effective in-depth renovation policies targeting the least performing segments of the built environment. The combination of additional measures for a building registry and skills development are well aligned with gaps identified in the LTRS. Romania's NECP indicates the intention to go beyond a 3-4% deep renovation rate.

FINANCIAL LANDSCAPE AND PERSPECTIVE

In its LTRS, Romania lays out different renovation scenarios and their investment needs. The central scenario requires €12.8bn with an additional €1bn to cover the technical assistance costs between 2020 and 2030. Those funds are to be sourced through both private and public funds, with an estimated €5bn needed to be mobilised from the State budget, as well as through a package of financial measures. In that context NRRP funding is not negligible but the need to provide a clear plan for accelerating investment across complementary funding sources remains. The biggest investment need is expected in the residential buildings sector with €7.7bn for multi-family buildings and €3.2bn for single family buildings. Educational establishments are estimated to need €874m, health facilities €510m, administrative offices €237m, and commercial buildings €305m. The creation of portfolio guarantees and a fund of funds for energy renovation indicate a step towards leveraging private capital.

MULTIPLE BENEFITS AND INTEGRATION

Romania's NRRP does not specifically target energy poverty, but according to the plan 20% of funding for multifamily building renovation will target buildings occupied by economically disadvantaged communities. Some heat decarbonisation measures like heat pumps are eligible for financing under the renovation schemes. However, there are no requirements to adopt Energy Efficiency First principles or deliver joint heat and energy efficiency activities. The proposal also includes specific proposals to drive forward the digitalisation of the buildings sector, including funding for a National Digital Building Register and digital building renovation passports and logbooks. The NRRP foresees the creation of guidance for integrated interventions, with detailed measures for energy renovation, seismic consolidation, and other quality requirements for buildings (indoor air quality, use of low carbon materials, use of non-toxic, recyclable and biodegradable construction products), although it remains unclear if those measures would be encouraged under the schemes.

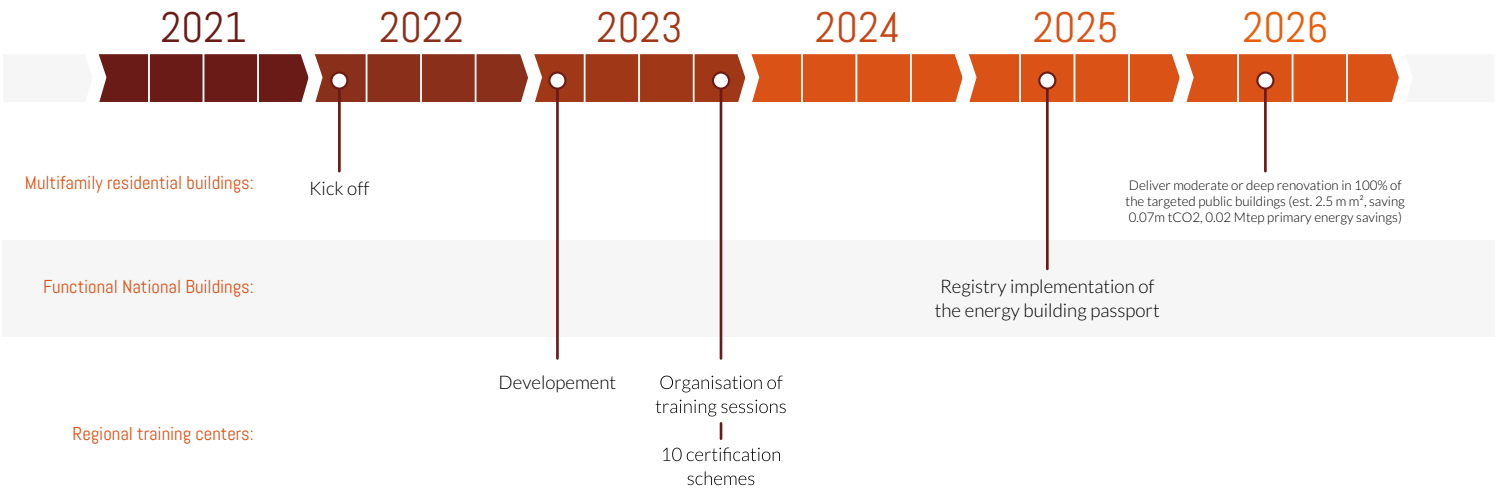
SUPPLY CHAIN AND PROJECT SUPPORT

Romania's NRRP does not provide details or funding for technical assistance or project pipeline creation (e.g. one-stop-shops, information campaigns). The LTRS estimates a budget of €70m annually over a period of 10 years would be necessary for technical assistance and support for programme management. Some funding for this is already foreseen as part of other funding streams (e.g. Cohesion Policy 2021-2027). Measures to support uptake (e.g. one stop shops) are not foreseen in the NRRP. The LTRS also identifies actions needed to support strategy implementation via training and skills development. The NRRP provides funding for a dedicated programme for training, including creating at least 8 centres within universities to provide specialised courses in the field of energy efficiency performance and at least 10 certification schemes for professionals in the field of construction.

IMPLEMENTATION FRAMEWORK

The Ministry of Development, Public Works and Administration is responsible for monitoring, reporting and implementation for most programmes. Administrative procedures for the multi-family and public building renovation programmes are well established as the programmes represent an extension to existing ones. The Ministry of Culture has an implementing role in relation to historic buildings, and the Ministry of European Investments and Projects is responsible for the development of financial instruments together with the European Investment Bank. The latter is also hosting a coordination unit to support implementation across other ministries. The plan includes well defined targets for kick-off and end-of programme delivery for individual components but lacks interim milestones for most programmes.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Building on strong links with Romania's LTRS, the NRRP sets a good basis to accelerate medium and deep renovation in the country, although the targets and support require further clarity. To further unlock potential, the Plan can benefit from:

- Developing a long-term financing strategy highlighting the planned use of different public financing sources and how they would be combined to accelerate the rate of deep renovations in line with LTRS targets.
- Strengthening efforts to leverage private finance and develop more market-based mechanisms (e.g. energy performance contracting).
- Ensure programmes are taken up at scale by financing and supporting technical assistance to end users across the public and private sectors (e.g. support for municipalities, one-stop-shops, public education about energy and support policies, digitalisation), as well as supporting training and skilling a sufficient workforce.

NOTE

The survey responses were complemented with a targeted desk-based review of Romania's Long-term Renovation Strategy (LTRS) and building elements of its National Energy and Climate Plan (NECP).

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

BUDOVY PRE BUDÚCNOSŤ

COUNTRY:

SLOVAKIA

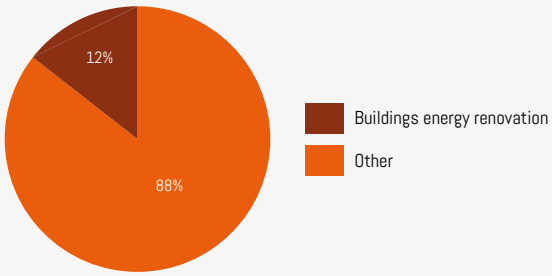
OVERVIEW:

Slovakia's Country Profile is based on information provided by Renovate Europe's Slovakian National Partner: Budovy pre budúcnosť' (Buildings for the Future). It focuses on the buildings elements in Slovakia'a National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The plan allocates significant funding to energy efficiency improvements, which will contribute to addressing the renovation investment gap in the country and serves as a good example of integrating renovation within wider policy priorities. To support implementation, the plan or alternative support measures should target further technical assistance and upskilling of the construction labour force.

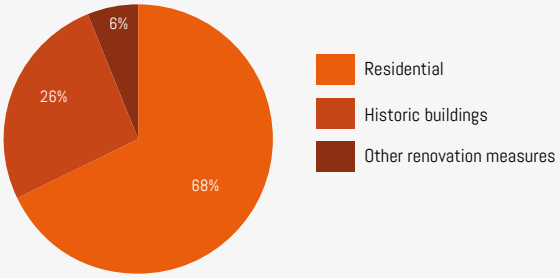
BUILDINGS IN THE CONTEXT OF THE PLAN

Slovakia's final NRRP amounts to a total of €6.6bn. In the earlier draft, €700m were allocated to a specific Building Renovation component of the plan. That value increased to €728m (11%) in the final NRRP, of which €528m is allocated to energy efficiency in single family homes and €200m for renovation of historical public buildings. The plan also contains significant funding for modernisation of public services like education, healthcare and the judiciary. Approximately €48m of it is tagged as climate-related renovation investment, including €17.8m for renovation of hospitals and medical service stations, €700k for centres for health and social community care for mental health, €18m for courts, €10m for police force buildings, and €1.2m for fire stations. A significant construction programme for new public buildings is also foreseen, including €817m (~12% of total) allocated to new hospitals, which will be required to achieve 'BREEAM Excellent' certification. Further €130m are allocated to other building-related climate measures. However, it is unclear whether these will fund new-builds or renovations. Altogether this brings total building investment to €1.7bn (26%).

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that only 1% of residential sector renovations were 'medium' depth and 0.1.% 'deep' renovations based on 2012-16 data and on the basis of renovated floor area. In the non-residential sector only 3.4% medium, and 0.5% deep. Lack of technical assistance for homeowners and municipalities is one of the main challenges to increasing the rate and depth of renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Slovakia's NRRP sets the goals of renovating at least 30,000 single-family buildings (1.5% of dwellings) and at least 117,000m2 of historic public buildings by 2026 achieving at least 30% primary energy savings. Individual renovations are expected to deliver at least a 30% reduction of primary energy demand, although there is no clear target for achieving an overall level of energy savings across all measures. NRRP objectives are directly linked to Slovakia's Long-Term Renovation Strategy. Measures include energy performance improvements through building fabric upgrades, energy use optimisation, and the installation of renewable energy sources. Energy efficiency improvements will be verified by energy certificates. Projects are expected to support holistic measures including mitigation and adaptation, and water storage systems (in the case of single-family homes).

FINANCIAL LANDSCAPE AND PERSPECTIVE

Slovakia's Long-Term Renovation Strategy (LTRS) lays out cumulative investment needs of €13.5bn until 2030, €22.2bn until 2040, and €22.8bn until 2050. This is indicative of a total investment need of €6.85bn to 2026, with NRRP funding contributing around €776m for renovation. There are no explicit mentions in the NRRP of other European or national funds being used to complement its investments. Funding will be provided mostly in the form of grants, with voluntary energy performance contracting available for public building renovations with the aim to encourage private finance. There is an intention to provide soft loans to co-finance or pre-finance the renovation of single family homes for low income households.

MULTIPLE BENEFITS AND INTEGRATION

Energy poverty is addressed through targeted marketing activities and technical assistance in regions with a high incidence of energy povert. Renovation elements aim to support decarbonisation through the integration of renewables and intelligent building management systems, including digitalisation and automation elements. All measures within building investment require that at least 70% (by weight) of non-hazardous construction and demolition waste produced on site is ready for re-use, use, recycling, and further recovery of the material. Measures to improve the quality of the indoor environment will also be supported alongside climate change adaptation measures such as rainwater capture, green roofs, and others. The renovation of public sector buildings is expected to contribute to other objectives including inclusive education, modern and affordable healthcare, and the fight against corruption and money laundering. The Energy Efficiency First Principle is not mentioned.

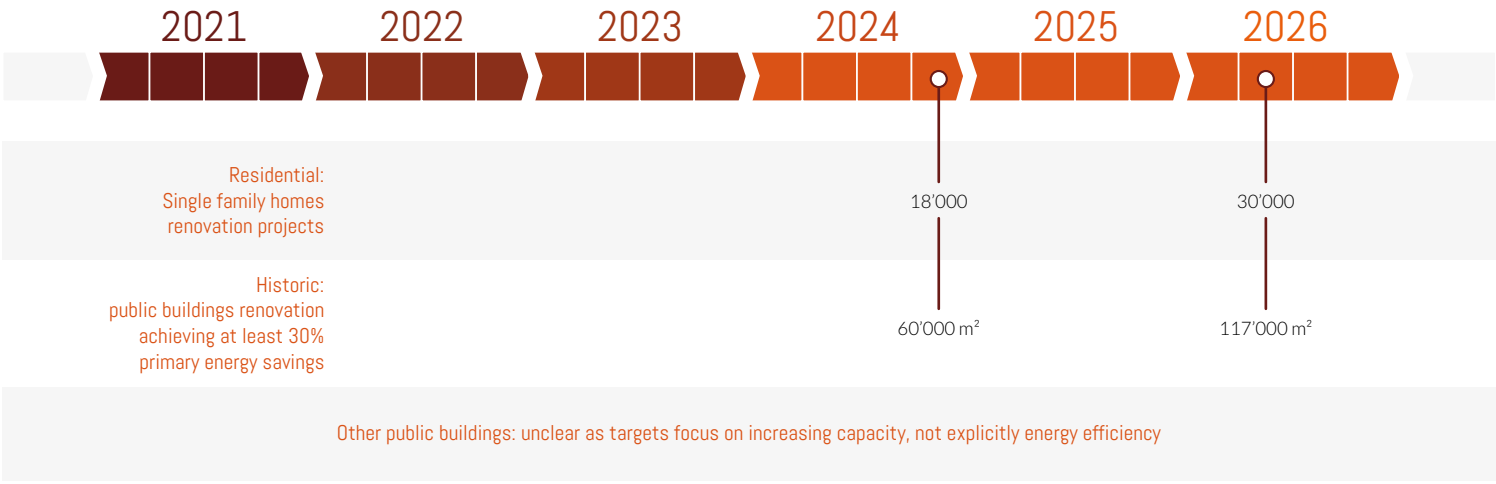
SUPPLY CHAIN AND PROJECT SUPPORT

Supporting measures like technical assistance, upskilling for energy professionals and project pipelines development are important elements to support the uptake of energy efficiency improvements. Slovakia's NRRP allocates €21m for technical assistance associated with renovation measures for the residential sector, which will support the creation of administrative centres including regional one-stop-shops. At present, basic upskilling activities are carried out within architects and civil engineering chambers. Further programmes for upskilling are not part of the plan, risking a shortage of qualified construction workers to deliver renovation ambitions.

IMPLEMENTATION FRAMEWORK

According to the Plan, the year 2021 will be used to prepare the scheme and its technological and administrative support, IT systems, and implementation plans. Slovakia's NRRP outlines interim milestones for residential sector renovation and historic public buildings. The Plan includes proposed reforms to create a single 'delivery body' which is expected to support implementation within the residential sector. The Ministry of Finance is the coordination body for the NRRP in general, but each ministry is responsible for investment within their public policy area and oversees implementation.

TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

The NRRP offers an opportunity for Slovakia to further increase its ambition in terms of rate and depth of renovation. To achieve this, it could:

- Strengthen the monitoring and implementation framework by setting interim targets for public sector buildings (historic public buildings and wider public sector)
- Allocate other funding to address the risk of shortage of qualified construction workers necessary for implementation.
- Use other finding to strengthen technical assistance, identified as key barrier to increasing depth and rate of renovation.

NOTE

The survey was complemented with a targeted desk-based review of Slovakia's Long-term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the draft Plan from March 2020.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Slovak NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 2: RENOVATION OF BUILDINGS According to the Slovak National Energy and Climate Plan and the Long-term renovation Strategy for Buildings, reaching the 2030 and 2050 EU emission reduction objectives requires a significant shift from the implementation of partial to medium (30-60% primary energy savings) and deep (over 60%) renovation of buildings. This component of the Slovak recovery and resilience plan aims at reduction of energy consumption by pursuing a comprehensive renovation of family houses, public historic and listed buildings. It combines measures to improve energy performance of buildings by achieving at least 30% of primary energy savings with measures to foster climate adaptation (such as installing green roofs, water retention system). The component contributes to the climate and environmental objectives, while boosting the recovery and competitiveness of the construction sector by creating more jobs, in particular for SMEs at local level.				
Reform 1: The harmonisation of support mechanisms for the renovation of family houses. The objective of the reform is to map, align and bring together different support schemes, to uniform and streamline the renovation process, and to provide incentives to owners for implementing a wider range of renovation measures. Design of the support schemes, criteria and conditions as well as implementation steps shall be outlined in the implementation plan to be published by Slovak Environmental Agency by 30 September 2022. To ensure effective and timely implementation, capacities of the Slovak Environmental Agency shall be strengthened. In the implementation phase, house owners shall be reached out to through a communication campaign and to-be-established regional offices as well as by providing a technical assistance and consultation.				
Launch of implementation plan		Q3 2022	3	The implementation plan shall map different support schemes and harmonise them. It shall detail preparation for the start-up of the scheme, timetable and its administration as well as the monitoring of the reconstruction and verification of energy savings primarily by energy performance certificates, or other corresponding documents. The schemes shall be designed to incentivize on an average at least 30% primary energy savings
Launch of the support schemes		Q3 2022	3	The schemes to mobilise energy savings and green renovation shall be designed and launched in line with the measures and schedule adopted by implementation plan. Respective calls will be published by the Slovak Environmental Agency at a website
Investment 1: Improving energy efficiency of family houses. The investment is targeted to the owners of older family houses. In addition to traditional energy savings measures such as thermal insulation, window replacement, the mechanism shall enable replacing inefficient heat and hot water sources with high efficiency installations or installing new renewable energy devices. Where possible, measures to increase climate resilience of buildings (such as vegetation roofs, rainwater capture) shall apply. To mobilise the comprehensive and green renovation, support schemes shall include a combination of mandatory and optional part. A financial contribution of owners is expected. Energy savings shall be verified primarily through energy performance certificates or other corresponding documents. Investment measures linked to renovation of buildings shall comply with DNSH requirements, including, the prevention and recycling of construction and demolition waste and the boiler replacement scheme, which shall be a small part of the overall renovation programme. RRF financed investments shall not provide the support of biomass boilers. The implementation of the investment is expected to start at the latest by 30 September 2022 and shall be completed by 30 June 2026.				
	506,0 + 22,0 (admin costs)	Q4 2024	7	18 000 single family houses shall be renovated in line with the requirements of the support schemes
		Q2 2026	10	In total 30 000 single family houses shall be renovated in line with the requirements of the schemes
Reform 2: Increasing transparency and streamlining decisions of the Monuments Board of the Slovak Republic. The reform aims at improving quality and efficiency of the decision-making process of the Monuments Board of the Slovak Republic by developing three methodologies to: 1)classify the monuments endowment, 2) set objective criteria by which Monuments Board makes decisions and 3) quantify the costs associated with the interventions of the Monuments Board In addition, the objective is to reform the mapping of state-owned monuments by assessing their technical, construction and energy-related aspects. The reform shall facilitate investment decisions on renovation with a view to preserving the monumental value as well as improving energy efficiency, where applicable.				
		Q4 2023		Based on standardised methodologies, at least 1000 construction passports shall be issued by the Monument Board to provide diagnoses of the technical as well as energy aspects of the relevant state-owned monuments to facilitate renovation decisions.
Investment 2: Renovation of historical and listed public buildings. Historical and listed public buildings are among the worst energy performing buildings and require a tailored-made approach to preserve and protect their cultural value and heritage. The objective of the investment is to improve the energy performance and structural conditions of the historical and listed public buildings while protecting its historical and cultural values and improving accessibility of the buildings. The investment is expected to result in renovation of around 100 buildings and shall be accompanied by an information campaign. Energy savings shall be monitored and verified through energy performance certificates.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
	200,1	Q4 2024	7	Of the overall objective is to renovate 66 000m2, at least 60 000 m2 of historic and listed public buildings, are renovated in line with the requirements of the open call, which shall define conditions to achieve on an average at least 30% primary energy savings
		Q2 2026/ 30 June 2026	10	Of the overall objective is to renovate 130 000m2, at least 117 000 m2 of historic and listed public buildings, are renovated in line with the requirements of the open call, which shall define conditions to achieve on average at least 30% primary energy savings
Administrative cost	5,4	30 June 2026		
Information campaign	1,0	30 June 2026		
COMPONENT 6: ACCESSIBILITY, DEVELOPMENT AND QUALITY OF INCLUSIVE EDUCATION The objective of the Component is to improve accessibility and inclusiveness of mainstream pre-school and school education in Slovakia. The Component will improve access to pre-primary education by ensuring that children aged 5 years old shall have place in the pre-school system and by introducing the legal entitlement to pre-primary education for 4- and 3-year olds.				
Reform 1:1.Ensuring conditions for the implementation of compulsory pre-primary education for children from the age of 5 and introducing a legal entitlement to a place in kindergarten or other pre-primary education providers from the age of 3				
	39,3 (only partly for renovation)	Q4 2025	9	The objective is to provide at least 12 352 places in the facilities while achieving on average at least 30% of primary energy savings in the renovated premises.
COMPONENT 7: EDUCATION FOR THE 21.CENTURY				
Investment 2: Completion of the school infrastructure. The first part of the investment aims to eliminate all the two-shift schools in Slovakia that may contribute to better integration for pupils from disadvantage backgrounds. The investments may take the form of expanding existing capacities, renovating and building new premise in 49 schools that currently pursue the two-shifts classes. Renovation of building shall be subject to achieving on average at least 30% of primary energy savings , to be monitored by energy saving certificates.				
Schools	12,3	Q2 2026	10	The objective is to eliminate the current two-shift operation in 49 schools. There shall be a specific call for double shifts schools to build new premises or make reconstructions of the premises which are not fit to serve pupils.
School libraries	0,3	Q4 2024	7	Of the overall objective is to establish or renovate 211, at least 200 libraries are built or renovated
COMPONENT 8: IMPROVING THE PERFORMANCE OF SLOVAK UNIVERSITIES				
Investment 1: Investment support for the strategic development of universities. Investments shall underpinned primarily reform 5 targeted at mergers of universities' excellence potential. The investments may be channeled through two different schemes. The first one that support projects for the development of research, education and accommodation infrastructure with high added value for excellent research such as: upgrading existing or new spaces for the concentration of excellent research and doctoral studies, including foreign researchers, upgrading existing or new spaces for practical teaching in professional bachelor courses, removing the barriers and digitization.				
	63,0	Q2 2026	10	The objective is 291.830m2 but at least 262.647 m2 university area shall be reconstructed including dormitories in universities, with primary energy savings of more than 30 % to be monitored by energy saving certificates.
COMPONENT 11: MODERN AND ACCESSIBLE HEALTHCARE				
Investment 2: New hospital network – construction, reconstruction and equipment The objective of the investment is to upgrade the current infrastructure and to build the new one to be compatible with the requirements of modern health systems and contribute to the hospital network. Building shall meet high energy efficiency requirements for the new hospitals and obtain certificate Building Research Establishment Environmental Assessment Method (BREEAM). For the renovated building 30% of primary energy savings is to be achieved				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Hospital beds	692,1 + 17.4	Q4 2025	6/ 9	Overall objective 2,666 new hospital beds, of which at least 2400 beds shall be made available, broken down: 1. at least 870 beds in completely new hospitals at full fitness out* level in buildings meeting the energy efficiency requirements of the 25ter intervention field certified BREEAM (the objective is 968 beds) 2. at least 1 035 beds in completely new hospitals at "gross construction" level** in buildings meeting the energy efficiency requirements of intervention field 25ter certified BREEAM (the objective is 1 150 beds) 3. At least 495 beds in hospitals after major renovation to full fitness out*** in buildings meeting the energy efficiency requirements of intervention field 26bis (objective is 548 beds) *** Extensive renovation to full fitness out-reconstruction of a large part of buildings, insulation, roofs, windows, doors, lighting, replacement of technological equipment (heating, wiring, electricity, lifts). The reconstruction shall reorganise the hospital's internal processes and rehabilitate technical equipment. The reconstruction of building shall be subjected to the primary energy savings of more than 30 % to be monitored by energy saving certificates. In order to facilitate the preparation and implementation of these projects, the special Agency shall be established.
Ambulance stations	0,8	Q2 2025	8	The aim is to build or reconstruct the locations of the ambulance stations that shall be located in the new network of the ambulance services. — The constructed settlements shall be located in buildings meeting the energy efficiency requirements of intervention field 26bis (at least 30 % energy savings compared to current status). —New settlements shall be housed in buildings which, in accordance with the regulation in force from 1.1.2021, must comply with energy efficiency class A0.
COMPONENT 12: HUMAN, MODERN AND ACCESSIBLE MENTAL HEALTH CARE				
Investment 3: Building psycho-social centres A total of 38 centres shall be established. **Investment 4: Completing the psychiatric stationary network** A total of 15 stationary facilities shall be constructed. **Investment 5: Establishment of specialised centres for autism spectrum disorders** A total of 3 new diagnostic-intervention centres for people with autism spectrum disorders shall be established.				
	0,7	Q4 2025	9	Entry into use of 56 community-based health and social care centres: 38 psycho-social centres, 15 day-time stationary facilities and 3 facilities for autistic type disorders.
Investment 7: Humanisation of institutional psychiatric care The investment's objective is a renovation of institutional psychiatric facilities to improve the conditions for hospitalization. This shall be achieved by reducing the number of patients per room with independent sanitary facilities. The overall patient capacity shall remain unchanged. Another measure shall be the replacement of enclosure beds by secured isolation rooms. A total capacity for 244 patients shall be subject to renovation. In the case of building renovations, the minimum objective is to achieve an average primary energy saving of 30%. The implementation of the investment shall be completed by 31 December 2025.				
C12.I7b – Humanisation of institutional psychiatric care – energy efficiency renovation costs	2,1	Q4 2025	9	Completed reconstruction of rooms in 2-bed rooms in institutional psychiatric care with sanitary facilities and replacement of enclosure beds with isolation rooms.
COMPONENT 13: ACCESSIBLE AND HIGH-QUALITY LONG-TERM SOCIO-HEALTH CARE				
Investment 1: Enhancing community-based social care capacities				
Expand the capacity of community-based care and outpatient facilities, allowing patients to be transferred from large-scale facilities to smaller community-type facilities, providing additional capacity to new beneficiaries, and reducing the burden on informal carers.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
	12	Q2 2026	10	Of the overall objective to create 1480 places in community-based facilities (of which 1000 places) and low-capacity health-social care facilities (of which 480 places) combined, at least 1400 new places shall be created, by constructing new buildings and by renovating existing buildings. Community-based facilities mainly refer to family housing facilities with a capacity of up to 12 places each. Health-social care facilities shall have a capacity of up to 30 places each.
		Q2 2024		In the case of building renovations, the minimum objective is to achieve an average primary energy saving of 30%.
Investment 2: Extension and renewal of after-care and nursing capacities				
		Q1 2025		Investment in the physical and technical equipment of 91 new and existing home nursing agencies. It will support the establishment of at least 11 new ones and the re-equipment of at least 80 existing home nursing agencies.
		Q2 2026	10	At least 650 after-care beds shall be created by utilizing freed up capacities of chronic and acute care following the optimisation of the hospital network. After-care beds will serve to treat patients after hospitalisation in acute beds
Investment 3: Enhancing and restoring palliative care capacities				
		Q3 2025		This investment comprises the creation of at least 270 beds by construction of new hospices (20 beds on average) and reconstruction of existing hospices. Hospices will be used for long-term palliative care for patients whose condition or family situation does not allow for palliative treatment at home.
		Q1 2025		As part of this investment in the physical and technical equipment of new and existing mobile hospices, at least 20 new mobile hospices and at least 6 existing ones will be supported. In the case of building renovations, the minimum objective is to achieve an average primary energy saving of 30%.
COMPONENT 15: JUDICIAL REFORM				
Investment 1: Buildings for the reorganised court system Reorganising the judicial map, requires some new buildings, and currently available court buildings require thorough renovation or adaptation. This investment shall expand capacity or upgrade existing or, where appropriate, build or procure new suitable premises for key courts in the new judicial map.				
	18,0	Q4 2024	7	Of the overall objective to reconstruct 86000 square metres of court buildings, at least 77500 square metres shall be reconstructed with a view to modernising and increasing their capacity as a result of the increase in judicial staff and judges in the merged judicial districts. The design documentation for reconstructions shall be prepared by Q2/2022.
COMPONENT 16: FIGHT AGAINST CORRUPTION AND MONEY LAUNDERING, SECURITY AND PROTECTION OF THE POPULATION				
Investment 2: Equipping and digitalising the police force				
	10,1	Q4 2024	7	Of the overall objective to renovate 49 965 square metres of building floor area, at least 45 000 square metres in police buildings shall be renovated to reduce their energy intensity. At least 5 buildings will be renovated by Q4/2023. Technical, material and spatial provision of criminal analysis units, criminal technology services and environmental crime units according to the material inventory of Q4/2024.
Investment 3: Modernisation of the fire and rescue system				
	1,2	Q2 2026	10	Completion of construction works for at least 4 new firefighting stations and the reconstruction of at least 3 existing firefighting stations. Renovations shall achieve on average at least 30 % primary energy savings.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

SGGCCS
SLOVENSKI GRADBENI GROZD
CONSTRUCTION CLUSTER OF SLOVENIA

COUNTRY:

SLOVENIA

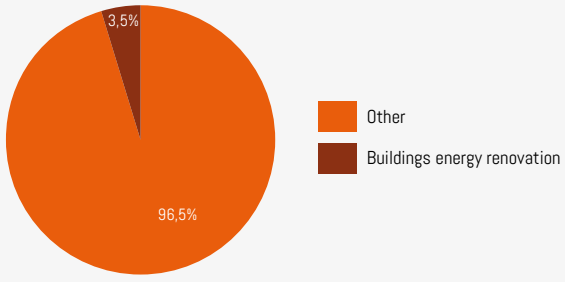
OVERVIEW:

Slovenia's Country Profile is based on information provided by Renovate Europe's Slovenian National Partner: Construction Cluster of Slovenia (SGG CSS). This Country Profile focuses on the buildings elements in Slovenia's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in July 2021.
The Plan allocates a modest amount of funding to energy efficiency improvements, focused exclusively on the public sector. Going forward, it would be key to consider how learnings can be leveraged more broadly to accelerate deep renovation in the residential and commercial sectors, including through investing in enabling conditions like increased technical assistance and upskilling of the construction workforce.

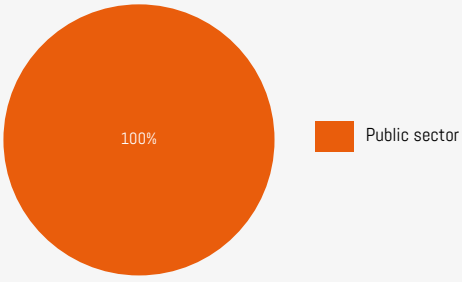
BUILDINGS IN THE CONTEXT OF THE PLAN

Slovenia's final NRRP comprises €1.8bn in grants and €666m in loans. 'Component 2' aims to improve the energy efficiency of buildings in the public sector, contributing to sectoral objectives of the National Energy Program. €86m (3.5%) of the total fund, drawn from the grants stream, are allocated to this programme. €66m go towards buildings of administrative and social importance such as health infrastructure and judicial buildings, €10m are allocated to buildings that need individual upgrades of technical building systems, and €5m each go to a) energy renovations of publicly owned multi-apartment buildings and b) the establishment of a systemic financing source for energy renovations of public sector buildings. The NRRP only focuses on public buildings since the Slovenian government considers the sector more feasible for implementation and aims to achieve the 3% annual renovation rate required by the Energy Efficiency Directive. The investment programme is supported by reforms with focus on public sector financing and planning.

Share of NRRP funding for buildings energy renovation (%)



Energy renovation by sub-sector (%)



National Challenges

A Study for the EC[1] estimates that only 1.3% of residential sector renovations in Slovenia were 'medium' depth and only 0.1% 'deep', realising over 60% energy savings. In the non-residential sector, those shares are 1.5% for medium, and 0.3% for deep renovations. The NRRP outlines three challenges for sustainable renovations of public buildings and social infrastructure: the age and weak protection of the current building stock; the low energy efficiency of buildings requiring deep and comprehensive renovations as well as the switch from fossil fuels to RES; and a shortage of stabile financing sources for energy renovation of public sector buildings.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

Slovenia's NRRP sets the goal in terms of renovated area for each of the separate funding streams. It refers to other plans, principally the March 2021 Long-term Renovation Strategy 2050 which aims to reduce final energy use by 45% and CO2 emissions by almost 75% compared to 2005. Both the LTRS and the NRRP emphasise public sector renovation. The goal in the NRRP is to renovate a floor area of 0.16 million m2 across all renovation programmes. This is equivalent to about 17% of the total area of narrower public sector (0.9 million m2), and 1.6% of wider public sector building area (8.8 million m2 including activities like education, public administration, health and social work and other). Renovation impact will be measured by issuing energy performance certificates for renovated buildings or via energy audits to confirm whether renovations secure 30% energy savings, although this is not always required. The Energy Efficiency First Principle is not mentioned in the Plan but features in the Building Energy Renovation Strategy.

FINANCIAL LANDSCAPE AND PERSPECTIVE

Slovenia's recently published Long-Term Renovation Strategy (LTRS) lays out cumulative investment needs of €6.71bn to 2030. Slovenia's NRRP only addresses public sector buildings, fully grant-funded, and does not intend to draw in private finance. For the narrow public sector, the LTRS provides a list of 491 buildings which are estimated to require around €6m to achieve 3% renovation rate. With additional earthquake retrofits, this value is estimated to be €27-52m. For 2021 to 2026 the wider public sector investment need is estimated at €105.27m, with €86.05m used from NRRP, the rest from other funding sources. The Plan mentions other European and national funds being used to complement its investments such as €1.4bn from the MFF which is still available to Slovenia, and ReactEU. However, Slovenia does not provide detail to their potential use for renovation.

MULTIPLE BENEFITS AND INTEGRATION

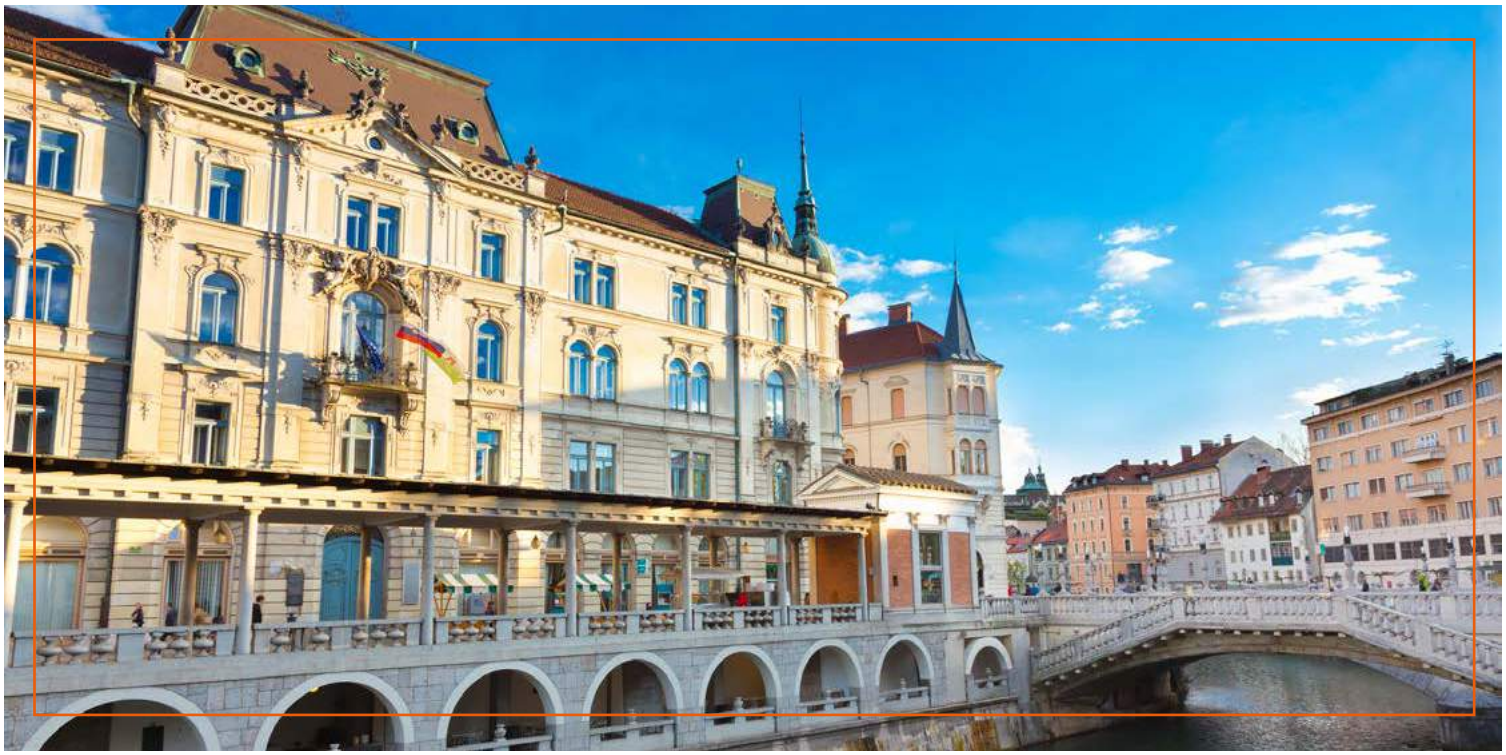
With its focus on public sector buildings, the NRRP does not directly target energy poverty beyond measures in publicly owned residential properties. Deployment of heating and cooling measures for the residential sector are also not a focus point, although potentially enabling investments are proposed e.g., strengthening distribution network infrastructure, and supporting renewable energy uptake and district heating as part of 'Component 1' of the Plan. A reform to improve network integration of renewables and storage is also foreseen. The NRRP also addresses other activities, including the preparation of the classification system to support public tendering and digitalisation of spatial data for planning purposes. Public sector renovation projects are expected to support holistic renovations, with the Plan referring to earthquake remediation, fire safety, and replacement of hazardous materials, to be carried out alongside energy renovations. However, the NRRP is not specific about its contribution to these improvements.

SUPPLY CHAIN AND PROJECT SUPPORT

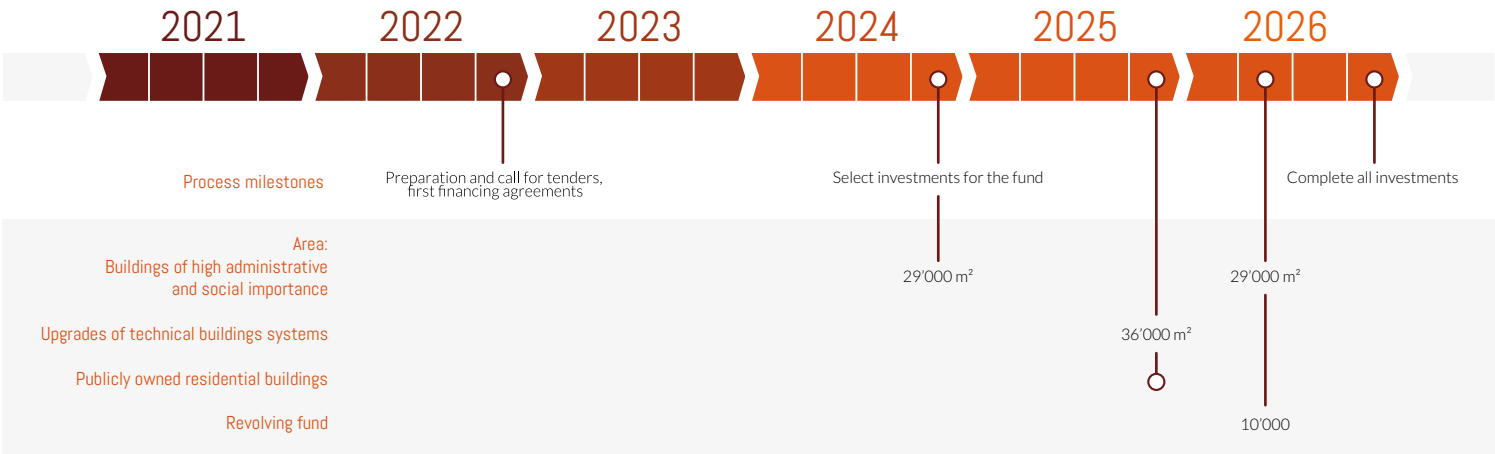
Slovenia's NRRP includes provisions for technical assistance which will be managed by a special governmental office to support the renovation of public buildings. The plan does not foresee measures specifically targeting skills development for construction and energy professionals to support deep renovation. Other components of the plan incorporate skills development which may extend to the renovation sector, but this remains unclear at present.

IMPLEMENTATION FRAMEWORK

Implementation of renovation components of the Plan will be overseen by the Project Office for Energy Renovations of Buildings, established in 2015, and part of the Ministry of Infrastructure. The Office for the Implementation of the Recovery and Resilience Plan in the Ministry of Economy will hold overall responsibility for monitoring and implementation. As a Coordinating Authority it will monitor, verify, and validate the achievement of milestones and targets so close cooperation between the institutions will be key for timely implementation. A National Cost Coordinator will prepare payment requests and submits them to the Commission.



TRACKING/ TIMELINE TO 2026



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Although Slovenia's NRRP needs to be viewed in the context of its existing energy renovation programmes – only touched upon here – the Plan's contribution is modest in terms of scale and sectoral coverage. The Plan does strengthen the national and EU priority that the public sector should lead by example in buildings renovation. There is therefore a clear opportunity to leverage the standards, skills and implementation experience from renovating public sector buildings to help increase the rate, quality, depth and sectoral coverage of renovation activity in Slovenia. This can be done by:

- Leverage private funds to address the risk of shortage of qualified construction workers necessary for implementation.
- Expand the renovation goals and ambition to the residential building sector and include the alleviation of energy poverty
- Using other funding to strengthen technical assistance, identified as key barrier to increasing depth and rate of renovation.

NOTE

The survey was complemented with a targeted desk-based review of Slovenia's Long-term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the Green Recovery Tracker and is based on the draft Plan from March 2020.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Slovenian NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 1: RENEWABLE ENERGY AND ENERGY EFFICIENCY				
Reform C: Energy efficiency in the economy The objective of the reform is to increase the energy efficiency potential of industry in Slovenia. Conditions shall include, inter alia, the implementation of energy management systems or of certain recommendations of energy efficiency audits. At least 20 companies shall obtain an e-card for the tracking of energy or resource efficiency. The reform shall also pay particular attention to the energy efficiency potential of the construction sector with the adoption of a Building Information Modelling Strategy to promote the use of building information models both in the building construction and in the management phase.				
		Q4 2024	2	An average increase of at least 10% of the recommendations made to companies implemented as compared to the latest audit. On the basis of e-cards, companies are expected to monitor and record compliance with the recommendations of energy audits in companies on the basis of pre-defined categories, such as establishment of energy management, appointment of a person to monitor the implementation of the recommendations, and electricity savings due to improvements introduced.
COMPONENT 2: SUSTAINABLE RENOVATION OF BUILDINGS In its National Energy and Climate Plan Slovenia estimates around EUR 9 500 000 000 of investment needs for the renovation of buildings in the period 2021-2030 in order to reduce final energy consumption in buildings by 20 % and greenhouse gas emissions from buildings by at least 70 % by 2030 compared with 2005. The objective of this component of the Slovenian recovery and resilience plan is to promote in-depth renovation of buildings, with a focus on the public building stock, to obtain a reduction of energy consumption of at least 30 % compared to ex ante emissions.				
Reform A: Reform of the planning and financing of the energy renovation of buildings in the public sector The reform shall define cost-effective renovation approaches, policies and measures to promote deep renovations of buildings, including measures to guide investment decisions by individuals, the construction industry and financial institutions and an assessment of expected energy savings and wider benefits, as provided for in the new Long Term Renovation Strategy.				
Entry into force of a ban on the use of fossil fuels for heating in new buildings		Q2 2023	4	A law shall establish a ban on the design and installation of heating oil, mazut (fuel oil), and coal boilers for heating buildings, as foreseen in the Long-term Strategy for Energy Renovation of Buildings 2050.
Establishment of a revolving fund for the energy renovation of buildings in the public sector		Q4 2023		The reform shall establish a revolving fund for the implementation of energy renovations of public buildings. The fund shall be self-financed with the financial savings generated by the energy efficiency investments.
Investment B: Sustainable renovation of buildings The objective of the investment is focused on the energy renovation of public buildings and also covers energy renovation of publicly-owned residential buildings. For all the investments, a minimum of 30 % energy savings overall, compared to ex ante emissions, shall be ensured. The investments shall cover costs for the thermal insulation of the building, energy-efficient equipment (windows, glazing, doors), cooling and ventilation systems, energy efficient lighting and control systems. The works shall also ensure high health and environmental standard, by addressing, inter alia, disaster prevention and protection against climate-related hazards, removal of and protection against harmful substances, fire and seismic safety. The renovation of public buildings is expected to include improvement of their accessibility for people with disabilities. Since Slovenia is one of the European countries most exposed to seismic risk, energy renovation shall be carried out in parallel with the seismic renovation to ensure a cost-efficient approach and a long lasting effect of the investment. The works shall also respect the aesthetics and architectural quality of the building, by taking into account the possible cultural protection requirements of renovation in the case of buildings belonging to cultural heritage. The following categories of buildings shall be eligible: • Buildings of exceptional administrative importance due to the COVID-19 epidemic; • Buildings of high social importance due to the COVID-19 epidemic; • Buildings requiring individual upgrading of technical building systems; • Publicly owned multi-apartment residential buildings. The investment shall also provide the financial allocation to initiate the energy renovation works under the revolving fund to be set-up under the reform. With this initial amount, the investment shall contribute to the energy renovation of other buildings in the public sector.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Opening of a call for tender for the implementation of individual upgrades of technical building systems	58.02 + 10	Q4 2022	3/9/10	Call for tender opened for the implementation of individual upgrades of technical building systems, such as air-conditioning and ventilation systems. The call shall be open until the budgetary envelope is exhausted.
Opening of a call for tender for energy and sustainable renovation of publicly owned buildings of high administrative and social importance		Q4 2022		Call for tender opened for energy and sustainable renovation of publicly owned buildings of high administrative and social importance. The call shall be open until the budgetary envelope is exhausted. Selection/eligibility criteria shall ensure: a) compliance with the 'do no significant harm' Technical Guidance (2021/C58/01); and b) at least a 30 % reduction of direct and indirect greenhouse gas emissions compared to the ex-ante emissions.
Opening of a call for tender for energy and sustainable renovation of publicly owned residential buildings.		Q4 2022		Call for tender opened for the energy and sustainable renovation of publicly owned residential buildings. The call shall be open until the budgetary envelope is exhausted. Selection/eligibility criteria shall ensure: a) compliance with the 'do no significant harm' Technical Guidance (2021/C58/01); and b) at least a 30 % reduction of direct and indirect greenhouse gas emissions compared to the ex-ante emissions.
Completed energy and sustainable renovations of buildings of high administrative and social importance		Q4 2024/ Q2 2026		29.000 m2 by Q4 2024 and 89.000 m2 (baseline 29.000 m2) by Q2 2026. Google Translate from NRRP: Measures included: 1. Rehabilitation or additional facade insulation 2. Replacement of worn-out joinery 3. Attic insulation 4. Replacement of an existing boiler with a wood biomass boiler 5. Implementation of the ventilation system 6. Installation of TS for TSV 7. Installation of thermostatic valves and frequency regulation of heating system pumps. 8. Central control system 9. Installation of energy-saving lighting 10. Organizational measures + urgent maintenance work.
Completed energy and sustainable renovation of buildings through individual upgrades of technical building systems		Q4 2025		36.000 m2 by Q4 2025. Google translate from NRRP: Upgrading of technical building systems is proposed for buildings that are already energy renovated, but they need an appropriate upgrade of individual technical building systems. With these, it took time COVID-19 epidemics have proven to be extremely problematic, especially in the implementation of systems cooling / ventilation, air conditioning and separation of individual parts of the building through ventilation zones. So it is in the context of ensuring resilience to the spread of the epidemic in the context of energy renewal, or even independently, it is also necessary to provide appropriate cooling / ventilation systems and adequate digital regulation or systems management, which refers to advanced building management systems. The upgrade of technical building systems also includes the installation of a solar power plant on the building.
Completed energy and sustainable renovation of publicly owned residential buildings implemented		Q4 2025		20.000 m2 by Q4 2025. Google Translate from NRRP: Demonstration examples of energy renovation are planned in this area multi-apartment buildings in public ownership. In the event that in addition to energy renovation, they would also include static / seismic rehabilitation, possible requirements for cultural protection of the building and functional upgrade buildings (adaptation of access for the disabled, installation of lifts, etc.) these measures would be financed from other resources. In this way, we would carry out the target number of renovations of multi-apartment buildings, which would be an example of good practices in further similar cases of building renovations.
Completed energy and sustainable renovation of public buildings financed under the revolving fund for the energy renovation of public buildings		Q2 2026		10.000 m2 by Q2 2026. Completed energy renovation of public buildings in compliance with the 'do no significant harm' Technical Guidance (2021/C58/01) and achieving at least a 30 % reduction of direct and indirect greenhouse gas emissions compared to the ex-ante emissions. Google Translate from NRRP: NRRP funds represent the initial start-up funds, after the end of the demonstration period we will also examine the possibilities of increasing funding with other sources: the budget of individual ministries within the adopted budget, cohesion funds and other EU grants, use of funds generated by energy savings or due to lower energy costs. V the existing draft EKP 21-27 program does not yet have a measure to establish a systemic financial resource envisaged and will be the subject of the demonstration project success and complementarity studies.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 3: CLEAN AND SAFE ENVIRONMENT				
Investment E. Social and economic resilience to climate-related disasters in the Republic of Slovenia C1K3.I.E The investment shall establish dedicated centres for prevention, preparedness and response measures against climate-driven disasters, such as floods and large wild fires. It shall include trainings for the civil protection forces to ensure integrated actions, as well as awareness raising measures for the general public. It shall also cover the digitalisation of the constructed centre for coordinated response and upgrading of the emergency number 112. The construction of the necessary energy efficient infrastructures shall take into account the need to locate the premises in an adequate area exposed to the relevant climate-related risks. It shall be carried out by the Ministry of Defence by means of competitive public tenders taking into account green public procurement requirements.				
SLO SERCID - Construction of new energy efficient buildings	23,42	Q4 2025		Entry into operation of the National Centre for Coordinated Response to Climate Conditional Disasters and 2 sub-centres for training modular flood response and large-scale wild fire response units. The centres shall have a primary energy demand of at least 20 % lower than that required for a nearly zero-energy building under the national rules on the construction of nearly zero energy buildings.
Investment G. Centre for seeds, nurseries and forest protection C1K3.I.G The objective of the investment is to increase the long-term quantity, quality and resilience of EU forests, notably against fires, pests and other threats that are likely to increase due to climate change. Biodiversity-friendly forest practices shall be further developed with a focus on genetic preservation and genetic diversity. The construction of the necessary energy efficient research infrastructures, including a forest seed department, a tree nursery department, and a forest protection department, shall take into account the need to concentrate the infrastructure and knowledge base for further innovation, development and research in this domain.				
Centre for Seeds, nurseries and forest protection	5,10	Q4 2024	7	The Centre shall include at least 3000 square metres of research areas. Research and development activities in the field of forest seed, nursery and forest protection shall be carried out at the Centre. The new building shall show a primary energy demand of at least 20 % lower than that required for a nearly zero-energy building under the national rules on the construction of nearly zero energy buildings.
COMPONENT 5: CIRCULAR ECONOMY – RESOURCE EFFICIENCY This component of the Slovenian recovery and resilience plan addresses challenges related to achieving climate neutrality by 2050, increasing material productivity, promoting energy efficiency and eco-innovation, improving the waste management system and strengthening the wood processing chain. The component also introduces green budgetary planning.				
Investment C: Increased Wood Processing to Accelerate the Transition to a Climate-neutral Society This investment is expected to contribute towards increased domestic wood processing based on an environmentally friendly production process and resource efficiency.				
Award of contracts for supporting environmentally-friendly wood processing	28	Q2 2026	7/ 10	Projects shall promote the processing of wood in an environmentally sound and resource-efficient manner and in line with the principles of the circular economy, sustainable construction, and the use of best available techniques.
Completed projects for supporting environmentally- friendly wood processing		Q2 2025		8 projects for supporting environmentally- friendly wood processing completed
Completed projects for supporting environmentally- friendly wood processing		Q2 2026		28 projects for supporting environmentally- friendly wood processing completed in compliance with requirements under milestone 74.
COMPONENT 11: SUSTAINABLE DEVELOPMENT OF SLOVENIAN TOURISM, INCLUDING CULTURAL HERITAGE				
Reform A: Strengthening the sustainable development of tourism The objective of the reform is to respond to the consequences of the COVID-19 pandemic and to provide the medium-term framework for developing Slovenian tourism in the direction of sustainable, high-quality and high value-added tourism. The reform consists in the entry into force of a decree on development incentives for tourism, which shall set out sustainability conditions for public support in the sector. These shall include, inter alia, an energy performance certificate of at least class B for any renovations, obtaining at least one international eco-label, and for new buildings ensuring primary energy demand is at least 20 % lower than the requirement for nearly zero energy buildings. Furthermore, the data monitoring and analysis capacity of the Green Tourism Scheme shall be strengthened.				

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Upgraded data monitoring in the Slovenian Green Tourism Scheme	1	Q2 2024		The Slovenian Green Tourism Scheme shall be upgraded to include an analytical tool to measure effects of tourism on leading tourist destinations and to analyse and forecast tourism flows. These data are expected to contribute to the sustainable development of tourism in Slovenia.
Entry into force of a Decree on Development Incentives for Tourism		Q4 2021		The decree shall provide the detailed conditions and criteria for award of incentives under the Tourism Development Promotion Act.
Investment B: The sustainable development of tourist accommodation offers to raise the added value of tourism The objective of this investment is to support sustainable tourism through improving the sustainability of tourist accommodation. The investment shall support the refurbishment, extension, or construction of tourist facilities in line with high energy-efficiency standards.				
Award of contracts for increasing the energy efficiency of tourist accommodation	24.25 + 10.25	Q4 2022		The selected projects shall comply with the conditions set out in the Decree on Development Incentives for Tourism. In particular, at least 50 % of the eligible costs of renovation or new construction shall relate to energy efficiency improvements. New buildings shall ensure that their primary energy demand is at least 20 % lower than requirement for nearly zero energy buildings. Google Translate: The investments foreseen by this component are expected to benefit the beneficiaries on average cover 60% of the project costs in case of renovation or extension of existing facilities and on average 66% in in the case of new construction projects. Conditions (Google Translate) - the project must obtain an energy performance certificate of at least class B; - projects representing new constructions will have to meet energy consumption targets, which will be at least 20% lower than the requirement for almost zero-energy buildings (NZEB stansdard), - the project or catering accommodation establishment must acquire it within two years after the implementation of the project one of the internationally recognized environmental labels also recognized by the green scheme Slovenian tourism and the "Slovenia Green" certificate; - projects will have to meet the conditions related to the achievement of climate goals, which relate to the construction and renovation of facilities, energy and water use, waste management, etc., In addition, the principle that it is not significantly damaged, new construction will also have to meet the requirements for almost zero-energy buildings; - Use of natural materials, with emphasis on wood, wood products or wood products in renovations.
Completed energy renovation projects for increasing the energy efficiency of tourist accommodation		Q2 2026		Completed renovation projects in compliance with the conditions under milestone 150. The average size of projects is expected to be at least 51 rooms. The total amount of funding shall be at least EUR 48,500,000.
Completed construction or full reconstruction projects for increasing the energy efficiency of tourist accommodation		Q2 2026		Completed construction or full reconstruction projects in compliance with the conditions under milestone 150. The average size of projects is expected to be at least 51 rooms. The total amount of funding shall be at least EUR 20,500,000.
Investment C: Sustainable development of public and shared tourism infrastructure and natural attractions in tourist destinations The objective of this investment is to support sustainable tourism through the development of public and shared tourist infrastructure. The investment consists in the refurbishment and establishment of public and shared tourism infrastructure facilities to complement and improve quality of the tourism offer.				
	10,00*	Q4 2025		Completed projects in public and shared tourist infrastructure. Projects shall give priority to the use of renewable energy sources and energy efficiency improvements, and shall aim to minimise environmental impact. The total amount of funding shall be at least EUR 10,000,000. *Only a small amount (not indicated) out of the whole measure will go to building renovation

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
Investment D: Sustainable restoration and revitalisation of cultural heritage and public cultural infrastructure C3K4.I.D The objective of this investment is to support sustainable tourism through the revitalisation of cultural heritage and public cultural infrastructure. The investment consists in support to renovation, restoration, overall revitalisation and modernisation of cultural heritage and public cultural infrastructure owned by the state or municipalities with an expected multiplier effect on tourism development. Projects shall include digitalisation and use of ICT technology to promote and interpret cultural heritage.				
Sustainable restoration and revitalisation of cultural heritage and public cultural infrastructure	57,34* (47,00 excl. VAT)	Q4 2022/ Q2 2026	10	Completed renovation of 15 cultural heritage sites in accordance with the green public procurement act. *Unclear how much of the money could go to energy renovation as energy savings are not mentioned.
COMPONENT 12: STRENGTHENING COMPETENCES, ESPECIALLY DIGITAL AND THOSE REQUIRED BY NEW OCCUPATIONS AND THE GREEN TRANSITION				
Investment H: Greening education infrastructure in Slovenia The objective of the investment is to contribute to the provision of more modern and environmentally friendly education infrastructure. The investment consists of the construction or extension of six educational institutions, pursuing the objective of building high energy-efficient buildings with a primary energy demand of at least 20 % below the nearly zero-energy building requirement.				
Completed selection of investment projects in greening education infrastructure	71,5* (40,01 is stated in SWD) + loans 73,37* (41,80 is stated in SWD) Of which 28,3 VAT	Q2 2023		The Ministry of Education, Science and Sport shall extend an invitation and sign contracts for the co-financing of infrastructure projects in accordance with the Strategy for Greening Education and Research Infrastructures. Contracts shall ensure that the primary energy demand of all new buildings is at least 20 % lower than the nearly zero-energy building requirement.
New educational facilities		Q2 2024/ Q2 2026		4.906 m2 by Q2 2024 and 34.532 by Q2 2026 (baseline 4.906). Completed construction and entry into operation of 6 new educational facilities, in compliance with the requirements. *The higher amount does not only include renovation/construction works. It includes e.g. buying equipment, spatial planning, project management costs, construction supervision etc.
New educational facilities		Q2 2025/ Q2 2026		31.017 m2 by Q2 2025 and 38.667 by Q2 2026 (baseline 31.017). Completed construction and entry into operation of 9 new educational facilities, in compliance with the requirements. *The higher amount does not only include renovation/construction works. It includes e.g. buying equipment, spatial planning, project management costs, construction supervision etc.
Reform D: Strategy for greening education and research infrastructure in Slovenia The reform consists of the adoption of a strategy for an energy-efficient and development-oriented system of investment in the education and research infrastructure by 2030. The strategy shall define in particular the priorities for investing in the greening of educational and research facilities. The Strategy for Greening Education and Research Infrastructures shall be adopted by the Government of Slovenia.				
Adoption of the Strategy for Greening Education and Research Infrastructures		Q4 2022		The strategy shall identify sustainable priorities for green investments in education and research infrastructures and for the maintenance of educational buildings, taking into account specific characteristics and specific needs, such as the principles of sustainable construction of near-zero energy buildings, spatial design, digital transition, and innovative pedagogical approaches.
Investment I: Further greening education infrastructure in Slovenia The objective of the investment is to further contribute to the provision of a sustainable and environmentally friendly education infrastructure. The investment consists of the further construction or extension of nine educational institutions, pursuing the objective of building high energy-efficient buildings with a primary energy demand of at least 20 % below the nearly zero-energy building requirement.				
Completed selection of investment projects in greening education infrastructure		Q2 2023	2/ 5/ 6 LOAN	The Ministry of Education, Science and Sport shall carry out an appropriate invitation to sign a contract for the co-financing of infrastructure projects in accordance with the Strategy for Greening Education and Research Infrastructures.
Surface area of new educational facilities: 37017		Q2 2025		Completed construction and entry into operation of new educational facilities, in compliance with the requirements under milestone 168.

Measure/Sub-Measure Name	Budget (EUR million)	Deadline	Instalment	Milestone/ target
COMPONENT 16: AFFORDABLE HOUSING This component of the Slovenian recovery and resilience plan addresses the shortage of public rental housing in Slovenia. Access to adequate housing is particularly difficult for young people and young families, the socially disadvantaged and other marginalized groups. This objectives of this component are to establish the conditions for increasing the stock of public rental housing with a reform of the housing policy and related investments in new rental apartments and acquisition and renovation of existing empty apartments. This shall reduce housing costs for the target groups, including of socially deprived individuals and families.				
Reform A: Strengthening the stock of public rental housing The objective of the reform is to increase the number of public rental housing in Slovenia primarily for socially disadvantaged and marginalised groups. The reform consists in the entry into force of amendments to the Housing Act which shall harmonise the level of non-profit rent by public housing funds and allow additional borrowing by such funds. These amendments are expected to ensure the long-term financial stability of public housing funds in Slovenia. The amendments shall also establish a public rental service with the objective of acquiring and renovating existing privately owned empty apartments for the purpose of affordable housing. Overall, the reform is expected to facilitate the construction of at least 5 000 additional dwellings and the activation of an indicative 2 000 currently empty private dwellings to be acquired and renovated by public housing funds.				
		Q4 2021	6 LOAN	The amendments to the Housing Act are expected to promote an effective and balanced approach to housing provision. They shall include an update of the level of non-for-profit rent while minimising the impact on tenants at social risk; the possibility for further borrowing by public housing funds, and the possibility for activating existing but unoccupied housing stock for use as public rental housing.
		Q2 2026		At least 4500 new public rental housing dwellings in compliance with the requirements under the Housing Act shall be constructed or purchased, excluding those foreseen in targets 208 and 209.
Investment B: Provision of public rental housing The objective of the investment is to reduce the deficit of public rental housing in Slovenia. The investment consists in the construction of 480 new housing units. The projects of municipal housing funds and other affordable housing organisations shall be selected through a competitive call for tenders.				
		Q2 2022	1/4/ 5 LOAN	The selected projects shall ensure the construction of new dwellings with an average surface area expected to be between 47 and 58 m^2. All dwellings shall be used solely for the purpose public rental housing. New buildings shall comply with requirements for nearly zero-energy buildings.
		Q4 2024		Construction works completed and use permits issued for 200 additional public housing rental dwellings, in compliance with requirements under milestone 207. The area of dwellings shall be in accordance with the conditions under the Rules on the allocation of non-profit housing (Official Gazette of the Republic of Slovenia Nos 14/04, 34/04, 62/06, 11/09, 81/11 and 47/14) and the average surface area is expected to be between 47 and 58 m^2.
		Q4 2025		Construction works completed and use permits issued for 480 additional public housing rental dwellings The area of dwellings shall be in accordance with the conditions under the Rules on the allocation of non-profit housing (Official Gazette of the Republic of Slovenia Nos 14/04, 34/04, 62/06, 11/09, 81/11 and 47/14) and the average surface area is expected to be between 47 and 58 m^2. The total amount of funding shall be at least EUR 60,000,000.

RENOVATE2RECOVER:
HOW TRANSFORMATIONAL ARE THE NATIONAL RECOVERY PLANS FOR BUILDINGS RENOVATION?

NATIONAL PARTNER:

RENOVATE ESPAÑA

COUNTRY:

SPAIN

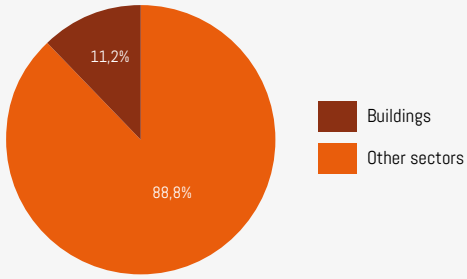
OVERVIEW:

Spain's Country Profile is based on information provided by Renovate Europe's Spanish National Partner: Spanish National Confederation of Construction (CNC) as a leading participant in Renovate España. This Country Profile focuses on the buildings elements in Spain's National Recovery and Resilience Plan (NRRP) endorsed by the Commission in June 2021.
The Plan sets out ambitious measures and objectives supported by a significant funding allocation, although further funding will be needed to meet Spain's objectives. It could be strengthened by developing wider funding plans for buildings and taking building owners' behaviour as well as supply chain capacity into account when setting milestones..

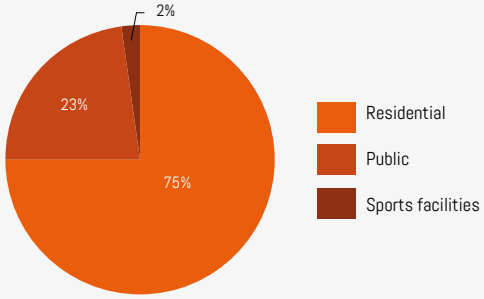
BUILDINGS IN THE CONTEXT OF THE PLAN

Spain's NRRP comprises measures worth €69.5bn. €7.8bn (11%) is allocated to buildings, the majority of which is for renovation across residential and public buildings (€6.8bn, ~10%). The residential sector attracts the highest share of investment, including €3.6bn for a multi-measure renovation programme for economic and social recovery in residential environments, €1bn for a 'Regeneration and Demographic Challenge' programme focused on smaller municipalities and low-income areas. €758m is allocated to renovation of public buildings, in addition to renovation activities supported by a €1bn allocation for the modernisation of public services, and €135m for energy efficiency of sports facilities. €1bn is allocated to the construction of new buildings for social housing

Breakdown of RRF by sector (%)



Sector breakdown of retrofit measures (%)



National Challenges

A study for the EC[1] estimates that based on floor area only 1.7% of residential sector renovations were medium depth and 0.3% deep renovations. In the non-residential sector the estimate is for 2.9% medium, and 0.5% deep renovations. Nearly 85% of existing buildings are rated E, F or G based on energy consumption. The annual number of renovated buildings increased by 10% between 2017 and 2019, but the renovation rate remains eight to ten times lower than the average for neighbouring countries and is insufficient to meet Spain's NECP objectives. According to the NRRP, key challenges to be addressed are the creation of an enabling environment for the growth of the sector, including adequate fiscal support, training and specialised workforce development. According to CNC, stimulating demand for energy renovation from consumers and supply chain actors is the main challenges to accelerating renovation.

[1] Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU - Publications Office of the EU (europa.eu)

Renovation plan details

CLARITY AND DEPTH OF AMBITION

The NRRP makes various direct references to Spain's Long Term Renovation Strategy (LTRS), which aims at renovating 1.2 million out of 18.7 million primary residences by 2030. The Plan estimates that, in the residential sector, a lifetime saving of 26TWh of final energy consumption would be saved by the measures (approximately 15% of 2018's final residential energy consumption), with an additional 17TWh in the non-residential sector (approximately 13%, incl. 1.5TWh from public administration buildings). Further targets are set for specific programme components. It is estimated that the NRRP will deliver on average 71,000 home renovations per year, which would exceed Spain's NECP target of 50,000 homes per year for the 2021-2026 period. It is estimated that the impact of the measures to promote renovation will lead to an average reduction in non-renewable primary energy consumption of more than 40% both in the residential and non-residential sectors. Almost all programmes require at least 30% primary energy savings to be achieved (therefore at least 'medium' depth) or obtaining energy performance class A or B certification (potentially deep renovation), to be eligible.

FINANCIAL LANDSCAPE AND PERSPECTIVE

According to Spain's LTRS, the total renovation investment required across 2020 to 2030 is €41.5bn, of which €15.5bn is expected as private investment for the renewal of cooling and heating equipment, which will be supported by €2.6bn of public investment. The funding set out in the NRRP includes €6.8bn in the form of grants – a sum broadly equivalent to the €7bn of public investment need set out in the LTRS to 2030 – complemented by an anticipated €4.5bn of private investment. Some of the Plan's programmes will link the level of grant support offered to the depth of renovation and household income, covering 30-50% of investment costs for projects with shorter payback periods, 50-70% for those with longer paybacks, and 70-100% for energy poor and low-income households.

MULTIPLE BENEFITS AND INTEGRATION

As highlighted above, renovation of buildings is expected to reduce energy poverty through targeted grants. The Plan includes the promotion of renewable energy including, but not limited to, cooling and heating as well as through energy efficiency standards intended to fully eliminate fossil fuel use in newly constructed social housing. Some of the residential programmes will include funding buildings renovation passports and their digitalisation. Implementation of digital management systems is also promoted for the public sector. The improvement of digital and telecommunication infrastructures in buildings and the urban environment is also planned. The NRRP links building renovation to wider urban and social impacts, including accessibility, conservation, improvement of security, sustainability, and habitability.

SUPPLY CHAIN AND PROJECT SUPPORT

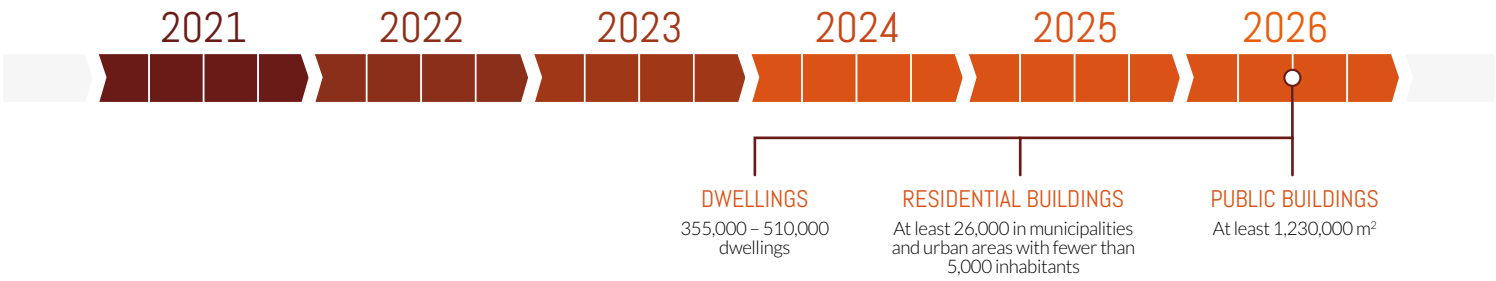
Spain's NRRP includes measures related to the improvement of digital skills and to training, which are both of high interest to the construction sector but are still to be developed more. The NRRP proposes several reforms for strengthening the renovation framework including updates to the Housing Act and the establishment of one-stop-shops ('Renovation Offices'). A decree further develops one-stop-shops with a promotion of €800 per dwelling effectively renovated.

IMPLEMENTATION FRAMEWORK

The Ministry of Transport, Mobility and Urban Agenda is the lead on most measures, in collaboration with the Ministry for Ecological Transition and Demographic Challenge, and the Ministry of Finance (for fiscal measures). The Plan provides clear targets, and intermediate milestones in most cases as detailed below.

TRACKING/ TIMELINE TO 2026

The NRRP's 'Component 2 (Renovation)' sets out a range of clear renovation targets to 2026, including for example renovating:



RECOMMENDATIONS FOR IMPROVEMENT DURING IMPLEMENTATION

Spain's NRRP is set to make a significant contribution to the renovation investment need identified in the LTRS and accounts for the likely contribution of private investment. Renovations planned in the residential sector are expected to be 'medium' to 'deep' and tackle nearly 2% of Spain's primary residences by 2026, thereby laying good foundations for a sustained and growing deep renovation wave. Implementation can focus on ensuring scalability, including by:

- Introducing intermediate milestones, including on wider urban and social impacts, to ensure progress towards targets can be regularly accounted for, accurately monitored, lessons learned and applied to facilitate scale-up.
- Monitoring project take-up and investing in additional technical support (one stop shops) to help identify and guide investments, alongside a plan to mainstream building renovation passports, as well as investing in training and upskilling the workforce in a sufficient proportion.
- Leveraging the Plan to further engage Spain's financial sector to channel increasing volumes of private finance into renovation, and to create incentives for end users to engage in renovation projects.

NOTE

The survey was complemented with a targeted desk-based review of Spain's Long-Term Renovation Strategy (LTRS) to place its NRRP in context. Data regarding the breakdown of the NRRP by sector is from the **Green Recovery Tracker** and is based on the same draft Plan.

Relevant extracts from the Commission Staff Working Document and the Council Implementing Decision for the Spanish NRRP

This Annex is to be read as a supporting document to the Country Profile. While the Country Profile centres more specifically on the renovation-related investments, the Annex is more broad and covers the climate-related reforms and investments of interest to buildings.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 02: IMPLEMENTATION OF THE SPANISH URBAN AGENDA: URBAN REHABILITATION AND REGENERATION PLAN				
COMPONENT 02 - REFORMS				
Reform 1 (C2.R1) – Implementation of the Spanish Urban Agenda (and associated action plan)		June 2020		Entry into force of the Spanish Urban Agenda as a national urban policy that shall ensure an integrated and comprehensive strategic planning of towns and cities, and the 2020 update of the Long-Term Renovation Strategy (LTRS) for Energy Rehabilitation in the Building Sector in Spain (ERESEE). The purpose of the ERESEE strategy is to make a diagnosis of the building stock in Spain and to remove obstacles and generate new approaches to scale up building renovation, to foster investment in the sector, to increase energy saving and to reduce carbon emissions in line with climate goals.
Reform 2 (C2.R2) – 2020 update of the Spanish long-term renovation strategy and associated action plan		June 2023		Publication of detailed recommendations of Working Groups to implement the 2020 update of the Long-Term Renovation Strategy (LTRS) for Energy Rehabilitation in the Building Sector in Spain (ERESEE). The purpose of the ERESEE strategy is to make a diagnosis of the building stock in Spain and to remove obstacles and generate new approaches to scale up building renovations, to foster investments in the sector, to increase energy saving and to reduce carbon emissions in line with climate goals.
Reform 2 (C2.R3) – Housing Law		Sept 2022		The objective of this measure is to implement, by means of the Housing Law, a first of a kind regulation in Spain, to address the various public planning, programming and collaboration instruments already in place to support the right to decent and adequate housing. It shall address the rehabilitation and improvement of the existing housing stock, both public and private, and regeneration and renewal of the residential environments in which they are located, to improve the quality of life. The law shall encourage an increase in the supply of affordable and social housing by ensuring compliance with the requirements currently laid down for nearly zero-energy buildings according to the Basic Energy Saving Document (DB-HE) of the Technical Building Code (CTE).
Reform 3 (C2.R4) – Law on the Quality of Architecture and Building Environment and New National Architecture Strategy		Sept 2022		Adoption of the Law on Quality of Architecture and the Building Environment including an integrated approach to rehabilitation which shall boost the growth of the nearly zero-energy building stock, not only among new buildings but also between existing buildings. The law shall lay down the principle of quality in architecture and built environment, establishing environmental sustainability and the contribution to the achievement of energy efficiency targets as one of the key assessment criteria, and guiding the necessary rehabilitation of the park towards an integrated approach to rehabilitation.
Reform 4 (C2.R5) – Renovation offices ('one-stop-shop')		Sept 2021		The objective of this measure is to encourage and extend the local renovation offices set up in some municipalities to accompany households and communities of owners in the highly complex tasks of rehabilitating a residential building. Adoption of Royal Decree setting out the scope of Renovation Offices ('one-stop shops') and their financing. The Sectoral Housing Conference shall be held and the public information phase and other legal procedures shall be completed before finalisation of the Royal Decree.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
Reform 5 (C2.R6) – Improved funding for renovation actions		Sept 2022		The objective of this measure is to addresses one of the main impediments to the launching of the renovation activity, namely access to finance on favourable terms. To have a renovation loan approved it is, at times, necessary to grant an individual owner within a building. This has represented an obstacle for the deep and integrated renovation of buildings. To address this issue, the measure: - Establishes a new Instituto de Crédito Oficial (ICO) guarantee line to partially cover the risk of loans granted by private financial institutions to renovate residential buildings; -Promotes the adoption of specific regulatory provisions, including the reform of the Horizontal Property Law, to improve access to finance for communities of owners; and -Encourages the deployment of green finance by financial institutions.
COMPONENT 02 - INVESTMENTS Investment 1 (C2.I1) – Rehabilitation programme for economic and social recovery in residential environments The objective of this measure is to support energy efficiency renovations in residential buildings and neighbourhoods. The actions under this measure shall implement at least 510 000 renovation actions in at least 355 000 unique dwellings, achieving on average a primary energy demand reduction of at least 30 % verified by energy performance certificates. The following actions shall be supported:				
Investment 1 (C2.I1) – Rehabilitation programme for economic and social recovery in residential environments The objective of this measure is to support energy efficiency renovations in residential buildings and neighbourhoods. The actions under this measure shall implement at least 510 000 renovation actions in at least 355 000 unique dwellings, achieving on average a primary energy demand reduction of at least 30 % verified by energy performance certificates. The following actions shall be supported:				
C2.I1.a.i Energy rehabilitation of buildings with on average primary energy savings of at least 30%	856	Q4 2023	6	A programme to support energy renovations at neighbourhood level, by providing grants and other support with on average EUR 20 000 per dwelling. The programme shall renovate at least 600 hectares of urban areas, achieving on average a primary energy demand reduction of at least 30 % verified by energy performance certificates. The actions include improving energy efficiency, deploying infrastructure for electric mobility, improving the accessibility of buildings and removing hazardous substances. A maximum of 15 % of the measure shall be dedicated to improvements at the level of neighbourhoods, such as improvements of outdoor lighting, cycling paths, green infrastructure and drainage systems, taking into account the socio-economic characteristic of the neighbourhood. At least 231 000 residential dwelling renovation actions in at least 160 000 unique dwellings completed, achieving on average at least a 30 % primary energy demand reduction (cumulative).
C2.I1b.i Energy rehabilitation of buildings with on average primary energy savings of at least 30%	1 716	Q2 2026	8	A programme to support energy renovations of residential buildings by providing grants of on average EUR 15 000 per dwelling. The level of support is higher for those actions for which the reduction of primary energy demand is higher and for low-income households. The actions include improving energy efficiency, deploying infrastructure for electric mobility, improving the accessibility of buildings and removing hazardous substances. At least 600 hectares of land in areas or neighbourhoods subject to renewal completed.
C2.I1b.ii Existing building book/Rehabilitation projects to improve energy efficiency	278			
C2.I1c Favourable environment to rehabilitation activity (tax incentives): line of action 3	450	Q2 2026	2	A set of activities shall address the incentives for energy renovations. This comprises, among others, (i) the possibility to deduct renovations from the personal income tax if at least a 30 % primary energy demand reduction is achieved, and (ii) the improvement of the funding framework by encouraging public-private partnerships.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
INVESTMENT 2 (C2.I2) – PROGRAMME FOR THE CONSTRUCTION OF SOCIAL RENTED HOUSING IN ENERGY-EFFICIENT BUILDINGS				
C2.I2 New programme to promote affordable rented housing, which are energy efficient (at least 20% lower primary energy demand compared to the NZEB requirements)	1 000	June 2026	2/8	The objective of this measure is to build at least 20 000 new dwellings for social rental purposes or at affordable prices compliant with energy efficient criteria. These shall be built in particular in areas in which social housing is currently insufficient and on publicly owned land. The primary energy demand of the social housing shall be at least 20 % below the requirements of nearly zero-energy buildings. To this end, a Royal Decree shall lay down the technical requirements to limit the value of primary energy demand to 80 % of the limit set in section HE 0 of the Basic Energy Saving Document (DB-HE) of the Technical Building Code (CTE).
INVESTMENT 3 (C2.I3) – ENERGY REHABILITATION OF BUILDINGS PROGRAMME				
C2.I3 Energy Rehabilitation of Buildings Programme (PREE), aligned with energy efficiency criteria with on average primary energy savings of at least 30%	300	Q4 2023	6/8	The objective of this measure is to support energy renovations of an equivalent of at least 40 000 residential buildings and 690 000 m2 of non-residential buildings and by improving energy efficiency and integrating renewable energy. The programme only supports renewable energy, excluding fossil fuels, provides a higher aid intensity for Energy Communities and allows for pre-financing the renovation actions. The specific actions cover the improvement of energy efficiency by thermal insulation, the use of renewable energy in heating and cooling systems, and improving the lighting system. An eligibility criterion is foreseen that on average a primary energy demand reduction of at least 30 % is achieved verified by energy performance certificates.
INVESTMENT 4 (C2.I4) – REGENERATION PROGRAMME AND DEMOGRAPHIC CHALLENGE				
C2.I4 Energy transition programme and demographic challenge with on average primary energy savings of at least 30%	1 000	June 2026	8	The objective of this measure is to support renovations of buildings in municipalities and urban areas with fewer than 5 000 inhabitants: At least 26 000 residential dwellings renovated in municipalities with less than 5 000 inhabitants, achieving on average at least a 30 % primary energy demand reduction. At least 250 unique clean energy projects completed at local level in municipalities with less than 5 000 inhabitants.
INVESTMENT 5 (C2.I5) – PUBLIC BUILDINGS REHABILITATION PROGRAMME				
C2.I5a Energy rehabilitation of public buildings with on average primary energy savings of at least 30%	758	Q4 2024	7	The objective of this measure is to support renovations of buildings in municipalities and urban areas with fewer than 5 000 inhabitants: At least 26 000 residential dwellings renovated in municipalities with less than 5 000 inhabitants, achieving on average at least a 30 % primary energy demand reduction. At least 250 unique clean energy projects completed at local level in municipalities with less than 5 000 inhabitants.
		Q2 2026	8	At least 1 230 000 m2 (cumulative) of renovated public buildings achieving on average at least 30 % reduction in primary energy demand.
COMPONENT 11: MODERNISATION OF PUBLIC ADMINISTRATIONS				
C11.I4 Energy Transition Plan in the General State Administration with on average primary energy savings of at least 30%	1 071	Q4 2024	7	At least 140 000 m2 of energy renovations completed on public buildings, achieving on average at least a 30 % primary energy demand reduction.
		Q2 2026	8	At least 1 000 000 m2 of energy renovations completed in public buildings, achieving on average at least a 30 % primary energy demand reduction. (baseline: 31 December 2024)
COMPONENT 12: INDUSTRIAL POLICY				
C12.I2e Support to sustainable industrial infrastructure: line of action 5	13	Q4 2022	6/8	Award of at least EUR 1 200 000 000 by the Minister of Industry to at least 78 innovative projects, including those linked to approved PERTEs (at least 3), that involve a substantial transformation of industry in terms of energy efficiency, sustainability and digital transformation.

Measure/Sub-Measure Name	Estimated Costs (EUR m), excluding VAT	Deadline	Instalment	Milestone/ target
COMPONENT 12: INDUSTRIAL POLICY				
C26.I2a Modernisation of sport facilities to improve their energy performance according to energy efficiency criteria	34+73=106	Q4 2025	8	At least 40 technical centres and 45 sport facilities shall have been renovated and will have achieved improved energy efficiency and/or optimisation of use through digitalisation, and/or improved accessibility. The objective of this measure shall be to upgrade existing sports facilities, including sports facilities that may attract tourism and high-performance sports centres. This shall be achieved through their digitisation for an optimal use and on an improvement in their energy efficiency that is expected to obtain savings of at least 30 % of primary energy demand. The selection criteria for investments carried out under this component shall ensure compliance with the 100 % climate tracking for at least EUR 106 000 000.
C26.I3a Modernisation of sports installations to improve energy efficiency according to energy efficiency criteria	28	Q4 2023	6	Completion of actions under the Social Plan for Sport, including renovation of at least 40 sport facilities and actions to promote the presence of women in professional sports (training programs, marketing campaigns, and studies). Interventions on energy efficiency shall achieve on average at least a 30 % primary energy demand reduction. The list of facilities shall be made public. The selection criteria for investments carried out under this component shall ensure compliance with the 100 % climate tracking for at least EUR 27 500 000 million out of the total investment.

GREEN RECOVERY TRACKER

ANNEX E - TAKING STOCK AT THE END OF 2021 (PUBLISHED 21 DECEMBER 2021)

Wuppertal Institut

E3G

GREEN RECOVERY TRACKER

EU RECOVERY: HOW GREEN IS RECOVERY SPENDING IN DIFFERENT SECTORS?

Taking Stock: Where are we on Green Recovery at the end of 2021?

The Green Recovery Tracker project analysed recovery plans and measures in 18 EU countries. Our analysis shows that €210bn out of the €716bn analysed is set to accelerate the green transition, while €54.2bn could in fact negatively impact the green transition.

This factsheet takes stock of EU recovery plans at the end of 2021, provides an overview of the assessed recovery spending across four key sectors: energy, buildings, industry and mobility and analyses how this sets us up for EU legislative processes and negotiations across key Fit-for-55 files in 2022.

Two urgent and all-encompassing political challenges unfolded simultaneously in 2020 and 2021: the need to respond to and recover from the COVID-19 crisis, and the need to realize the European Green Deal. Politicians and policy experts alike quickly agreed that an effective allocation of economic recovery spending would require the pursuit of a "green recovery": addressing the economic crisis as well as the climate and biodiversity crises.[1]

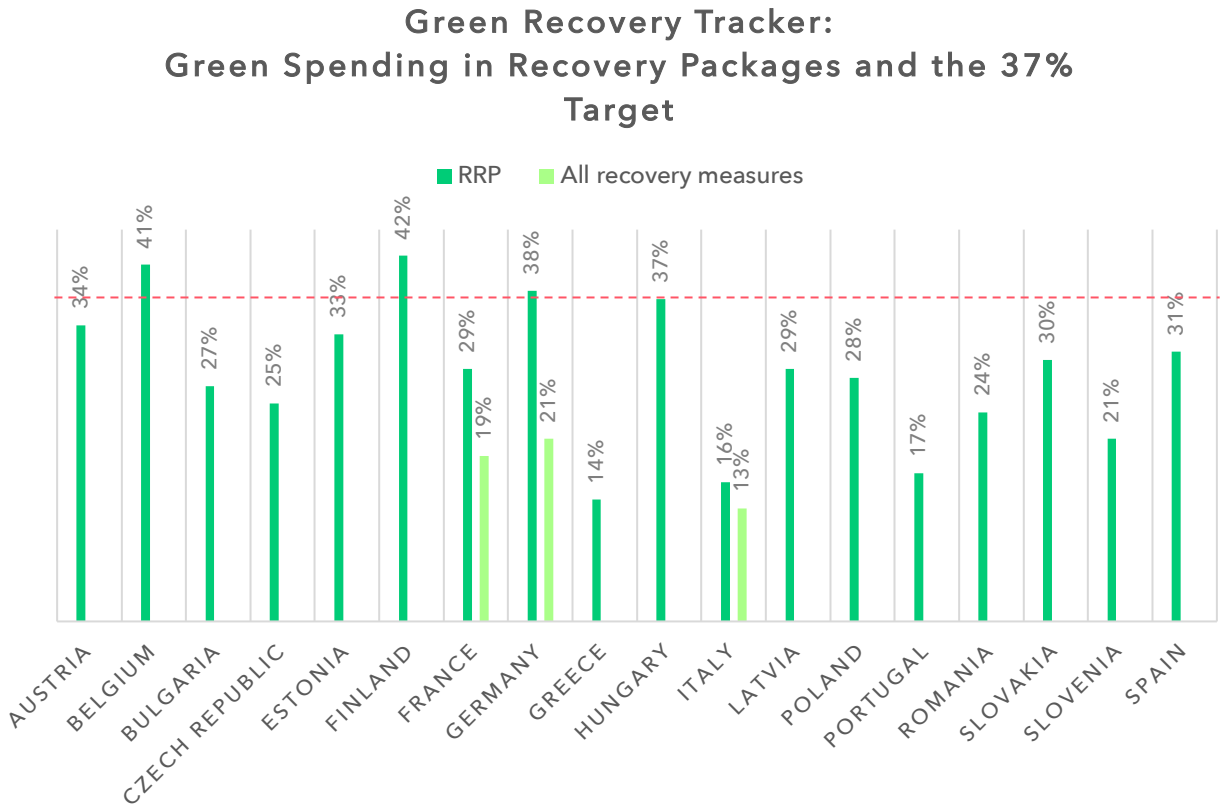
In Europe, national governments and the European Union were deploying large recovery packages to bring their economies back on track. This included a ground-breaking €750bn recovery package for the entire EU ("Next Generation EU"), with the €672.5bn Recovery and Resilience Facility (RRF) as its central element. The RRF was set up to enable recovery measures in all EU member states, based on Recovery and Resilience Plans (RRPs) prepared by national governments. European leaders agreed that the EU's recovery must be aligned with the green and digital transition. Thus, the RRF regulation demanded that at least 37% of the spending in National Recovery Plans support the green transition, with the remainder of the funding doing no harm to the transition.

The 37% target led to intense negotiations and discussions between EU member states and the Task Force created by the European Commission. The process of drafting and revising RRPs in coordination with the European Commission did significantly improve the quantity and quality of climate-spending in a number of member state plans.

Despite these improvements, however, our analysis showed that most final recovery plans are set to miss the 37% climate spending target. Moreover, we found significant risks that measures that

[1] Federal Environmental Agency (2020). The Green New Consensus: Study Shows Broad Consensus on Green Recovery Programmes and Structural Reforms

look green at first glance may end up supporting fossil fuels (e.g. measures that appear positive but when considered in the local context could end up being harmful, such as investments into "hydrogen" infrastructure in regions where it is unlikely that the infrastructure will be utilized for anything except fossil gas in the foreseeable future[2]) and that most recovery plans are not aligned with the EU's new 2030 climate target.



By the end of 2021, 22 EU member state recovery plans have been submitted[3] end endorsed by the European Commission. An overview of how the implementation of the Recovery and Resilience Facility and the national recovery and resilience plans is progressing can be found on the recently launched Scoreboard[4] by the European Commission. The endorsement allows a disbursement in pre-financing to the respective countries. The Commission will authorize further disbursements based on the satisfactory fulfilment of the milestones and targets outlined in the Council Implementing Decision, reflecting progress on the implementation of the investments and reforms.

[2] Also see CAN Europe (2021). EU Cash Awards

[3] **Bulgaria**: Plan is still under review;
Netherlands: Due to national elections followed by coalition negotiations, the Netherlands have not submitted a recovery and resilience plan so far.
Poland and Hungary: Plans submitted but not endorsed yet
Sweden: Plan was submitted, but the Government decided on 23 September 2021 on revisions to this plan.

[4] See https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html?lang=en

About our data

This factsheet is based on data gathered through the Green Recovery Tracker, a joint project between Wuppertal Institute and E3G, in collaboration with national experts. The data used is available on the website www.greenrecoverytracker.org. A full list of all countries covered, and the status of the documents on which this analysis is based for those countries, can be found in Annex 1.

Deviations between our numbers and official assessments by the European Commission[5] can be explained by methodological differences, including the fact that our methodology only considers climate mitigation and not adaptation effects. Moreover, we count 26% of all measures as having a likely climate effect but not assessable due to uncertainties[6], which are oftentimes assessed positively by the EU Commission. The official Climate Tracking Methodology outlined in Annex VI of the RRF Regulation is the necessary construct for a uniform assessment of measures across all countries. And yet it leaves loopholes in the precise evaluation of individual measures. Only the implementation phase will show how green certain measures are implemented. Thirdly, we distinguish between very positive measures for which we allocate 100% of the budget to support climate mitigation and positive measures which we count with 40%. Even though many member states have also discounted some measures not to contribute completely to climate mitigation, rates may differ in individual cases.

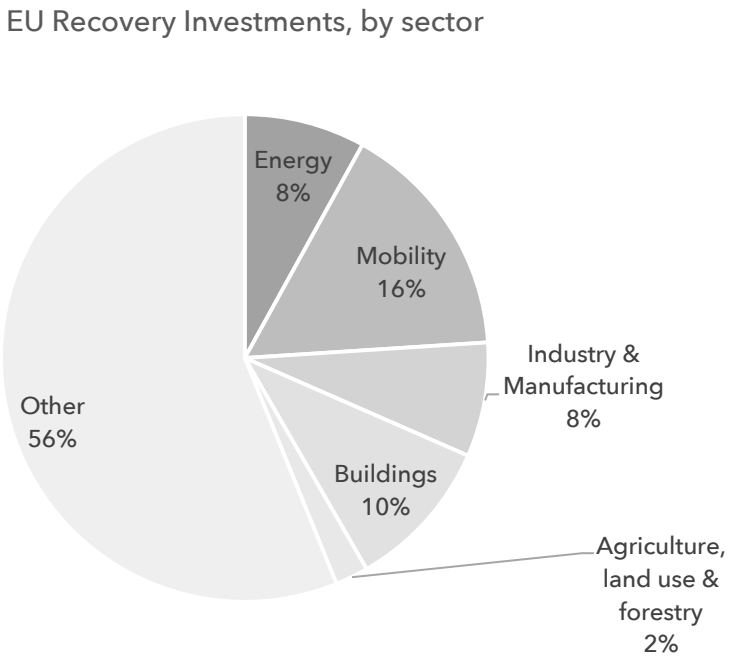
EU RECOVERY PLANS: SPENDING BY SECTOR

Spending by member states varied considerably across different sectors, with mobility receiving the largest share at 16% (€110bn), followed by buildings at 10%(€72bn), and finally energy (€56bn) and industry (€52bn) respectively at roughly 8% of funding allocated. Only 2% of investment measures detailed in member state recovery plans are set to go to agriculture, land use & forestry (€15bn). Given the limited scope of measures covered for agriculture, we, therefore, chose not to focus on this sector in detail in this briefing.

[5] https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en#national-recovery-and-resilience-plans

[6] Measures combining positive and potentially harmful elements (e.g. support for efficiency measures alongside investments into new gas infrastructure), measures that could have a positive or negative impact depending on their design (e.g. some digitalization measures, general investment support for local governments), ...

The vast majority of investments (€392bn) included in member state plans could not be specifically assigned to a given sector (with sectors defined along a CO2 emissions inventory logic). Measures in the "other" category are either cross-sectoral (like VAT reductions) or focus on e.g. education, health, social and care systems. In this category almost two thirds of measure are likely to have no or only a small climate effect. For another 21% the climate effect is not assessable. Only 7% have a positive or very positive climate effect. While 6% have a negative climate impact.



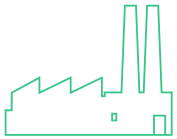
In the following section, we provide a factsheet covering the core results by sector. Subsequently, we unpack sector by sector - the quantity and quality of climate spending, highlighting opportunities and shortcomings that will be critical for the climate-neutral transition in each of these sectors in the coming years.

GREEN RECOVERY TRACKER

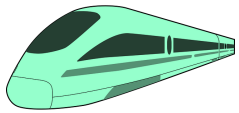
FACTSHEET: ENERGY, INDUSTRY, BUILDING & MOBILITY

The Recovery Facility's **impact on the supply of clean electricity will be smaller than its impact on the demand for it.** Regarding renewable electricity supply, which is already cost competitive in most areas of Europe, the bottleneck may be less about financial support and have more to do with **regulatory constraints.**

Most Member States plan to achieve **medium-depth renovation**, which was the minimum required by the RRF Regulation so that those measures count fully towards the 37% green transition target. They have some potential to accelerate the transition of the building stock in the EU, but **fall short of the ambition necessary** for the buildings sector.



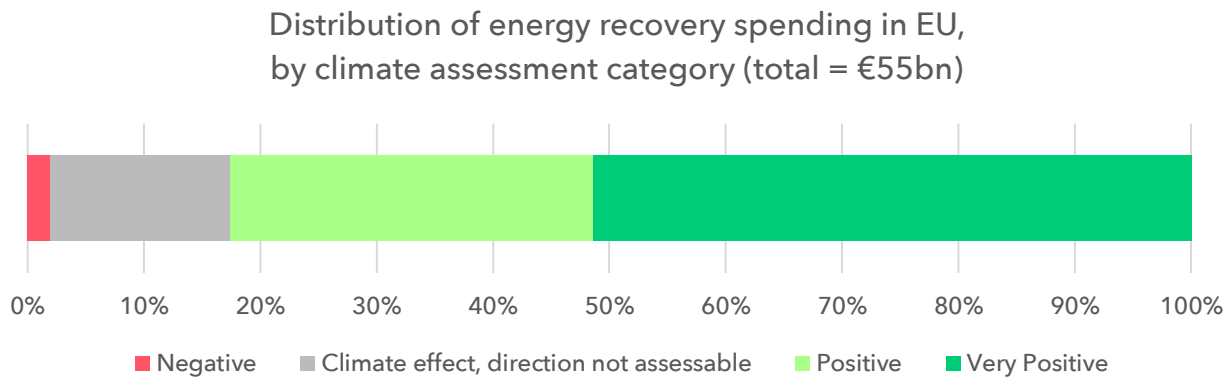
Member states are currently not required to develop plans for decarbonizing industrial sectors as part of the NECPS, though NECPs formed the basis for many member states recovery plans. **The lack of an existing framework, set of targets and measures** is illustrated in the RRPs by often **unrecognizable strategies** of measures regarding the decarbonization of industry.



As one-fifth of mobility-related recovery spending still goes to road transport infrastructure and in the form of subsidies to the automotive industry, **the transition to a truly sustainable mobility ecosystem** that prioritises public transport and active mobility over the use of private vehicles **will be hampered.**

SECTOR: ENERGY

Our assessment of recovery measures[7] shows that 8% of the total recovery investments are set to go to the energy sector, for example into electricity or gas infrastructure. 83% of the energy investments assessed are expected to make a positive or very positive contribution to the green transition. This includes measures that are set to improve electricity grids, scale up the production of green hydrogen, and increase renewable energy generation.
However, the climate impact of €8.5bn (16%) in investments could not yet be determined and will depend on how the recovery plans are implemented. This includes investments in gas-based technologies where it is not yet clear whether they will be fully based on renewable hydrogen or whether they risk creating fossil gas lock-ins. Lastly, we identified €1.1bn in energy recovery spending which could in fact be actively harmful to the green transition, including planned investments into what will most certainly be fossil gas infrastructure in Bulgaria[8] and Romania[9].



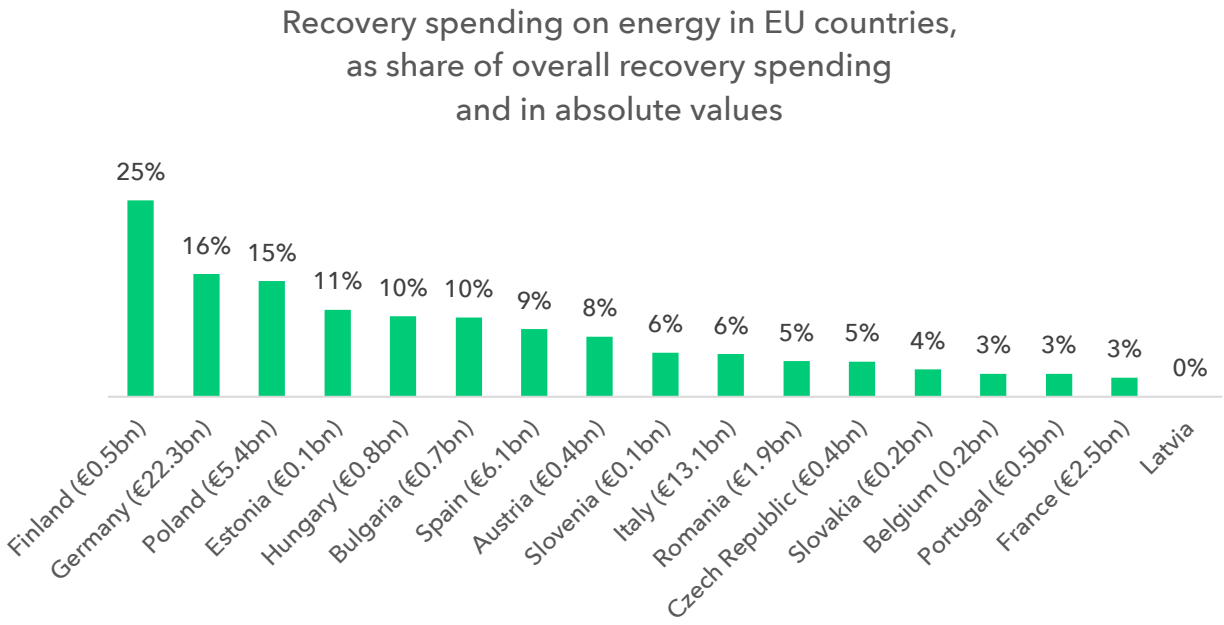
Furthermore, our data shows that different governments prioritized investments in the energy sector to different extents when developing their recovery plans. Finland achieved the highest share of energy-related spending by far. Germany plans to use the funding to lower its renewable energy surcharge, thereby making the use of electricity more competitive relative to fossil fuels such as oil and gas, and to enable large scale investments in hydrogen. Poland is offering significant opportunities to scale up the offshore wind power industry, though mostly through loans. Naturally, countries with access to more recovery funding were able to allocate higher

[7] See Annex 1, without Greece

[8] Bulgaria's recovery plan is still not approved by the European Commission. The final plan contains measures on gas turbines and gas pipelines which bare a high risk that they will most likely not used for hydrogen in the foreseeable future.

[9] A full assessment of the climate-related components of the Romanian NRRP can be found here: https://www.enpg.ro/wp-content/uploads/2021/11/EPG_Romanias-Post-COVID-19-Recovery-Report.pdf

absolute amounts to any single sector without necessarily having the highest share, as can be seen in the absolute numbers which are also included in the chart below.



KEY TAKEAWAYS FOR RECOVERY SPENDING ON ENERGY: PRIORITIES FOR EU LEGISLATIVE PROCESSES IN 2022

Based on our assessment of recovery spending for the energy sector, it looks very likely that EU recovery funds will create a demand pull for renewable electricity. Numerous measures are being introduced that are set to accelerate the rollout of electric end-use technologies such as heat pumps and electric vehicles. This has the potential to make a positive contribution to the green transition due to the ability of these devices to efficiently use clean electricity. However, the plans alone are not doing enough to fully secure these benefits, as investments in clean electricity infrastructure, both for generation and grids, are limited.

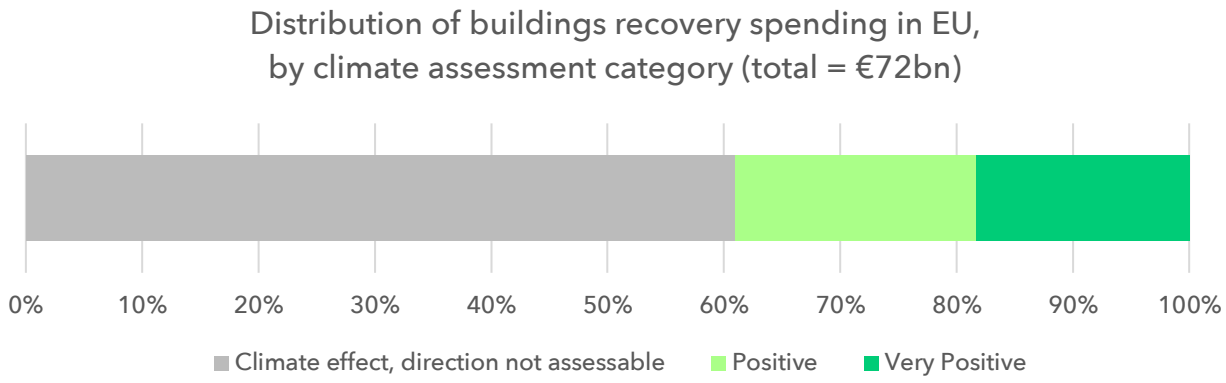
In summary, this could mean that the Recovery Facility's impact on the supply of clean electricity will be smaller than its impact on the demand for it. Consequently, it will be important to increase efforts in energy efficiency and thus limiting the expected growth of electricity demand. Regarding renewable electricity supply, which is already cost competitive in most areas of Europe, the bottleneck may be less about financial support and have more to do with regulatory constraints.

Legislative steps to unlock the potential of renewable energy generation are therefore urgently needed, also because they are a prerequisite for other green recovery measures to be able to make a positive impact. Such steps would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans.

Electricity grids, also need an urgent scale up of investments and the lack of focus on this in most recovery plans can be considered a missed opportunity. Furthermore, all these measures should be implemented alongside coherent and effective support schemes for a more efficient use of energy.

SECTOR: BUILDING

Our Green Recovery Tracker assessment of recovery measures shows that 10% of the total recovery investments are set to go to the building sector, for example into residential or public buildings. 39% of the investments in the building sector assessed are expected to make a positive or very positive contribution to the green transition, whereas €43.6 bn (61%) worth of investments could not be determined and will depend on how the recovery plans are implemented.



The deep dive assessment of the building energy renovation components of the plans conducted with the Renovate Europe National Partners[10] shows a significant investment to energy renovation. In most cases, Member States plan to achieve medium-depth renovation, which was the minimum required by the RRF Regulation so that those measures count fully towards the 37% green transition target. They have some potential to accelerate the transition of the building stock in the EU, but fall short of the ambition necessary for the buildings sector to meaningfully contribute to achieving climate neutrality goals.

Out of a total of €472bn foreseen to be disbursed to the 18 countries studied[11], €39.9bn is allocated to buildings energy renovation. Proposed investments in energy renovation are concentrated in the residential sector, which receives over €23bn (58%) of funding. At least 2%

[10] https://www.renovate-europe.eu/wp-content/uploads/2018/09/Renovate2Recover_Full-Study-1.pdf

[11] Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Poland, Romania, Slovakia, Slovenia and Spain

of it is explicitly targeting social housing as a sub-sector, driven by a €500m investment program in France. Public sector buildings are the second largest target for investment with close to €13bn (34%). The remaining funding is allocated to the industry/ commercial sector - €2.9bn (7%), with historic/heritage buildings and other funding including innovation and investment in skills attracting the remaining less than 3%. Residential sector funding dominates in all countries except for Belgium, France, Croatia and Slovenia, for which public sector funding receives a larger share.

The overall share of funding allocated to energy renovation across the 18 Member States is estimated at 8.4%, which is below the Commission's illustrative 12% of RRF funds overall being allocated to renovation. It differs between countries: ranging from approximately 3% of total in Austria to 16.4% in Belgium. Five countries have allocated less than 10% of their NRRP allocation to buildings energy renovation, with the remaining allocating between 11-14%.

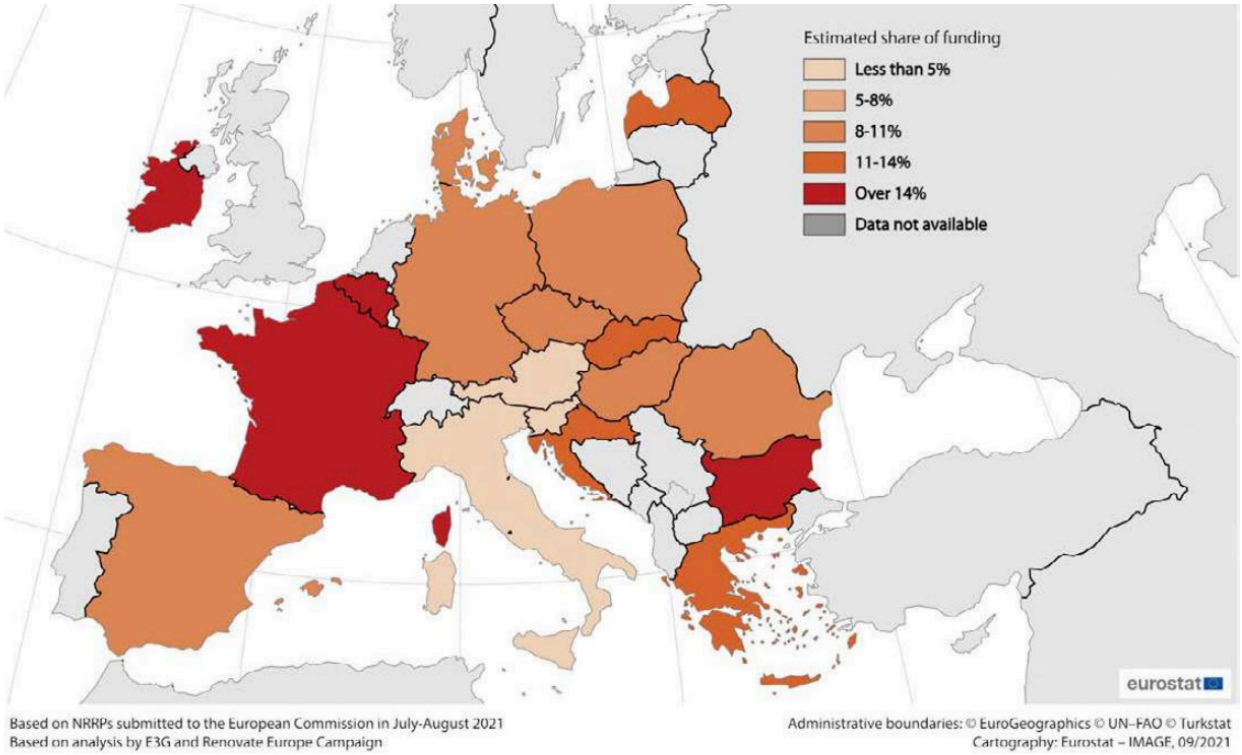


Figure 3. Share of funding allocated to energy renovation of buildings in NRRPs, in %

KEY TAKEAWAYS FOR RECOVERY SPENDING ON BUILDINGS: PRIORITIES FOR EU LEGISLATIVE PROCESSES IN 2022

The analysis of the recovery plans in this study demonstrate significant renovation activity is planned but in order to deliver transformational change, further steps are needed. This includes ensuring that funding delivers a step change towards realising deep (or staged deep)

renovations, going well beyond the 30% minimum energy saving recommendation set by the European Commission **and investing in the right enabling framework to create sustainable renovation markets including skills, certification, awareness raising and support for citizens through one stop shops and other support models and attracting private finance.**

UNDERPINNING A STRONG FIT-FOR-55 PACKAGE FOR BUILDINGS

The deep dive assessment of the building energy renovation components of the plans conducted with the Renovate Europe National Partners demonstrates significant interest in investing in building renovation, which can contribute to a strong outcome for the Fitfor-55 legislative proposals, all of which would enter into force while NRRP funding is being invested. New legislative proposals affecting buildings and renovation have already been tabled: these include a revision of the Energy Efficiency Directive (EED), Renewable Energy Directive (RED) and a new Emissions Trading Scheme for heating and transport fuels, and most recently the revised Energy Performance of Buildings Directive (EPBD).

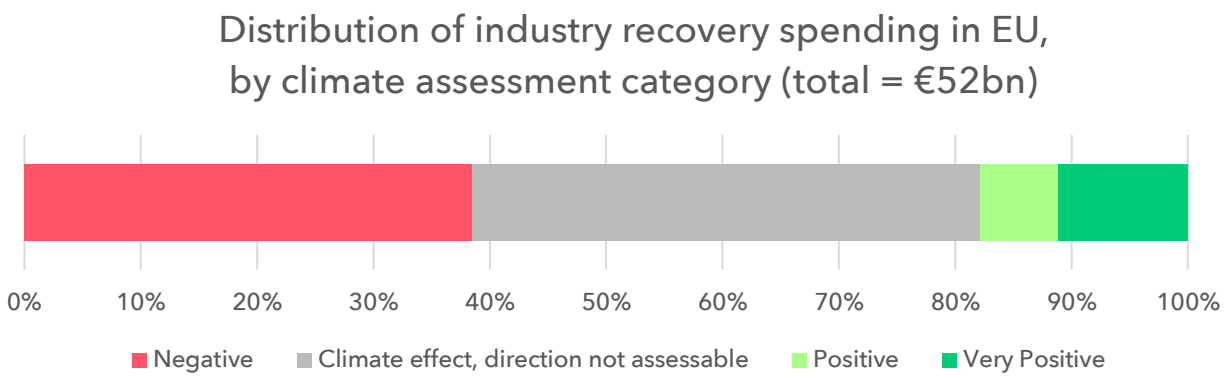
The strength of the overall package is critical for delivering on renovation, with individual elements playing pivotal roles. For example, the introduction of mandatory Minimum Energy Performance Standards (MEPS) under the EPBD can send a strong signal to the whole renovation value chain, from institutional investors to building users. The EPBD as presented by the European Commission sets a precedent at EU level by introducing MEPS for at least the worst performing buildings, representing 15% of the total EU building stock. This can be built upon and developed to send a wider signal for other parts of the building stock.

The EED sets new energy savings and increased efficiency targets for Member States (to be binding at least to some extent), buildings renovation will play a key role in their capacity to fulfill those targets. In terms of enabling framework, the proposal for equivalent requirements for certification and training for providers of energy efficiency services and energy audits, are a welcome step forward – and one that NRRP investments can help see adopted and delivered effectively. Ensuring that renovations are delivered by highly qualified and trusted professionals is necessary for a successful buildings transition.

Done right, NRRP investment can ease agreement on, and the implementation of, a more ambitious legislative package for buildings – a virtuous cycle between ambition and deliverability that can drive the creation, investment in, and sustained growth of renovation markets across the EU. To unlock this, it will be critical to establish a positive feedback loop between EU institutions (in supporting effective deployment of NRRP funds) and Member States (in backing a strong legislative outcome from Fit-for-55 negotiations) that delivers a significantly improved building stock for citizens.

SECTOR: INDUSTRY

We find that nearly 8% (about €52 bn) of the spending outlined in the 17 plans assessed[12] is set to flow to industrial sectors. Nearly 20% (€9.3 bn) of this spending will accelerate the green

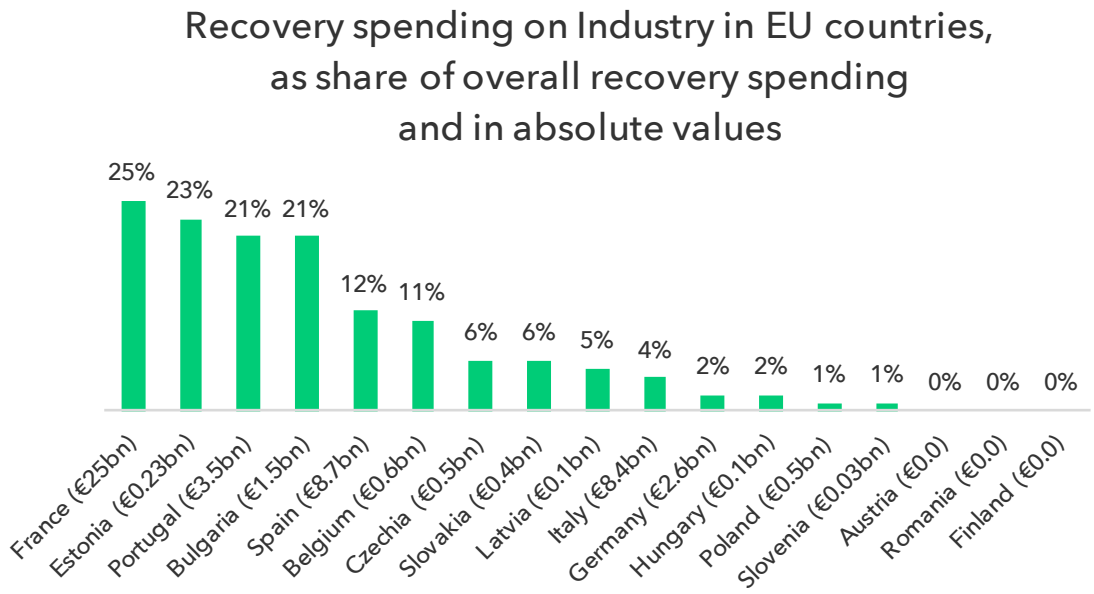


transition. Although some plans contained specific measures to promote industry decarbonization (6%) and circular economy (9.4%), these areas ultimately did not feature strongly in most member state recovery plans. However, the climate impact of €22.75bn (44%) worth of investments could not be determined and will depend on how the recovery plans are implemented. Lastly, we identified €20bn in industrial recovery spending which is likely to be harmful to the green transition. Critically, this amount is accounted for by just one measure: the reduction of the production tax in France.[13]

There was a considerable variation in how much different member states chose to invest in industrial sectors. France, Estonia, Portugal and Bulgaria set aside the highest share for industry-related spending. Belgium introduced measures to encourage companies to develop an industrial value chain for scaling up hydrogen use. Germany also focused on support for hydrogen use in industry. Germany proposes the establishment of an EU-wide integrated market of green hydrogen production and implemented a national hydrogen strategy[3]. Countries with access to more recovery funding were, of course, able to allocate higher absolute amounts to any single sector without necessarily having the highest share of spending, as can be seen in the absolute numbers which are also included in the chart below.

[12] See Annex 1, without Greece

[13] This measure was introduced without any links to climate targets of conditionality attached to the tax reduction that could lead to emissions reductions. As a result, we expect it to boost industrial production with a negative impact on overall emissions.



KEY TAKEAWAYS FOR RECOVERY SPENDING ON INDUSTRY: PRIORITIES FOR EU LEGISLATIVE PROCESSES IN 2022

One core problem regarding the industrial sectors is that member states are currently not required to develop plans for decarbonizing industrial sectors as part of the National Energy and Climate Plans (NECPs) planning and reporting framework, under the Energy Union Governance Regulation. NECPs formed the basis for many member states recovery plans. Without an existing framework, set of targets and measures for industrial decarbonization, member states will have found it more challenging to quickly pull together concrete and comprehensive investment plans for industrial sectors.

On the cusp of a decade in which a major wave of reinvestment in EU industrial assets is due, this was a missed opportunity. There are two main ways to rectify this going forward:

- Many of the milestones for member state recovery plans have already been set. However, where there is still space for revisions with plans still being drawn up, the European Commission should encourage member states to ensure a strong focus on industrial decarbonization.
- Ensuring comprehensive legislation on industrial decarbonization and funding for investments in the transition at EU level.

The European Commission has already made substantial progress on the second of these two levers. The Fit-for-55 package, released in July 2021, included a range of measures specifically aimed at accelerating industry decarbonization: additional support for early-stage

commercialization of innovative production processes via a stronger Innovation Fund and the provision of Carbon Contracts for Difference (CCFDs), a more robust anti-carbon leakage system in the form of the proposed Carbon Border Adjustment Mechanism (CBAMs) and targets to ensure green hydrogen uptake and prioritization for industry sectors.

As these proposals make their way through the legislative process over the course of 2022, it will be critical to ensure they are strengthened in such a way that they create strong enough incentives for industrial companies to shift to cleaner production processes. There is already a widespread perception backed up by numerous studies[14] that industry sectors have had a relatively free ride so far. To ensure that CBAMs and CCFDs do not contribute to that dynamic they will need to be accompanied by a strong ask from industrial sectors in return, effectively coming at the cost of some of the supports (e.g. free emissions allowances) they benefit from currently.

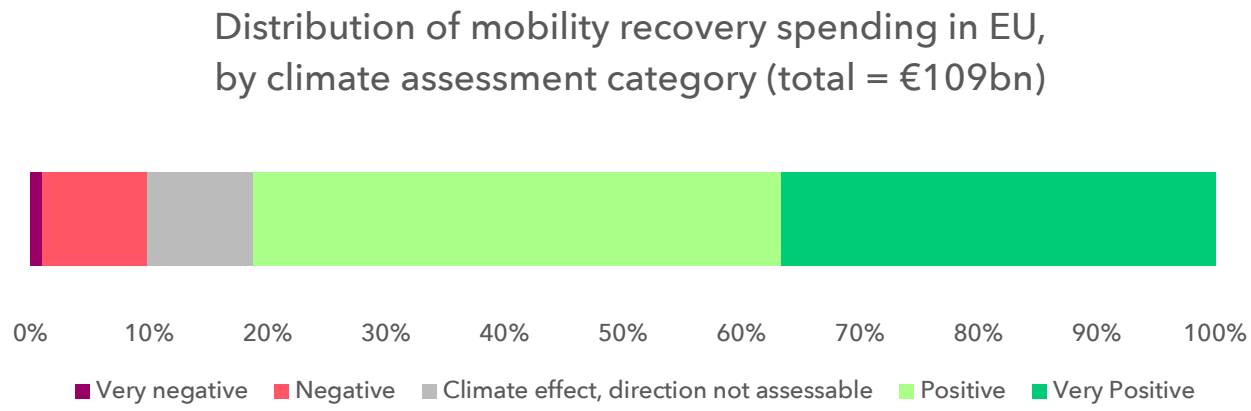
Ensuring sufficient and targeted investment at EU and member state level in industrial decarbonization is a key issue for the just transition and for Europe's economic cohesion. EU industrial sectors have faced considerable challenges since the global financial crisis 2008-09: structural declines in demand, increased international competition, volatile raw material prices and overcapacity in the global market. By supporting the shift to near-zero emissions industrial production processes and scaling up circular economy approaches, EU member states will be able to create a long-term future for these sectors in Europe, securing jobs throughout the industrial value chain. By doing so in a way that benefits all regions, EU recovery funding and an EU clean industry package can reduce the risk of fragmented national policies and start to bridge inequalities in the shift to a climate neutral economy.

SECTOR: MOBILITY

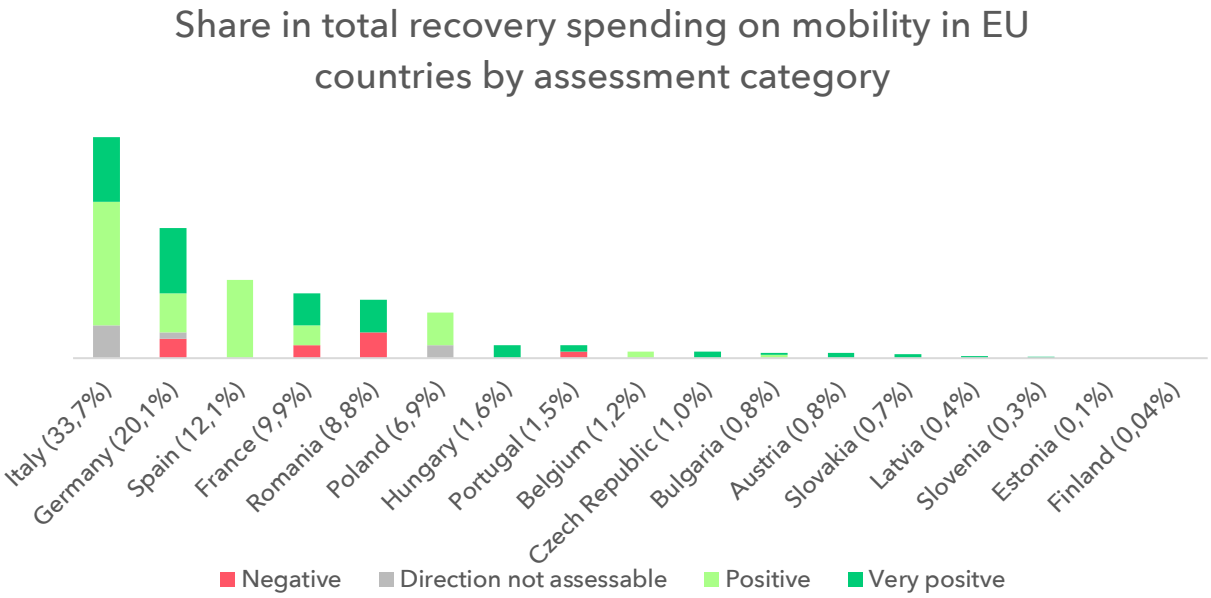
The assessment of recovery programmes in 17 EU member states[15] shows that 16% of the total recovery investments (€109bn out of €685bn) are spent in the mobility sector, significantly higher than the share for the industrial or energy sector.
We find that 82% (€89.2bn) of the mobility recovery spending in the EU is considered to make a positive or very positive contribution to the green transition. Typical measures that are rated "positive" or "very positive" are investments into the expansion and optimization of railway networks; investments into upgrading of urban transport systems and active mobility; investments into the renewal of public transport vehicle fleets and rolling stocks; or support programmes for the purchase of e-vehicles and charging infrastructure, targeted both at individuals and enterprises. On the other hand, 9% (€10.3bn) of the measures were considered problematic, comprising e.g. the extension of road networks, support programmes that also cover combustion vehicles, or support measures for the aviation sector. The impact of 9%

[14] https://carbonmarketwatch.org/wp-content/uploads/2021/05/Presentatie_AdditionalProfits7Junevs2.pdf
[15] See Annex 1, without Greece

(€9.6bn) of the total recovery investments can't be assessed yet and depends on the individual implementation of the recovery plans as some of the investments are e.g. envisaged in the national recovery plans rather nonspecific and labelled as "sustainable and safe transport" or "clean mobility", which makes a more accurate assessment impossible.



Member states show a wide variety of shares allocated to the transport sector: with about €37 bn (34%), Italy has by far the highest share of mobility-related spending, followed by Germany, which spends 20% of the total investment (€109bn), and Spain with a share of 12%. Other EU countries invest less than 1% of their programmes into mobility measures.



Furthermore, the measures can be divided into four key areas that have benefited most from these investments: Road transport and automotive industry (21%), long-distance public transport (58%), urban public transport (15%) and other forms of transport as aviation, water transport and alternative fuels production (6%).

One area of concern is that one-fifth of mobility-related recovery spending still goes to road transport infrastructure and in the form of subsidies to the automotive industry. While it is clear that electrifying vehicle fleets will be needed to achieve European and national climate targets in the short to mid-term, such investments perpetuate car-dependent mobility systems complicates the transition to a truly sustainable mobility ecosystem that prioritises public transport and active mobility over the use of private vehicles.

KEY TAKEAWAYS FOR RECOVERY SPENDING ON MOBILITY

A strong contribution of the transport and mobility sector is crucial to achieving the European 55% target by 2030. With its 'Sustainable and Smart Mobility Strategy', the European Commission is setting concrete milestones to ensure a smart, sustainable and resilient return from the COVID 19 crisis. For example, the installation of 3 million public charging stations by 2030 is intended to promote the spread of zero-emission cars on European roads. Doubling high-speed rail and expanding cycling infrastructure over the next decade will also make mobility between and within cities and towns healthier and more sustainable.

Given the ambitious target set by the European Union, the overall spending is unlikely to be sufficient, especially in view of the urgent need to cut emissions, improve air quality and health conditions in urban areas.

GREEN RECOVERY TRACKER

CONCLUSION

IS THE GLASS HALF FULL OR HALF EMPTY?

The economic Covid recovery efforts of the EU member states are unprecedented both with respect to total budget and climate ambition: the €672.5bn budget of the Recovery and Resilience Facility (RRF) with a 37% share of green recovery has become a major investment component of the EU's Green Deal. The whole process of recovery plan development and approval by the European Commission has intensified the debate in all member states of how to "build back better" and use recovery funds to strategically support the transition to a zero carbon economy.
However, given the massive challenges and time pressure imposed by the necessity to become climate neutral by 2050, it becomes obvious that in the EU Recovery funds the full potential to explore synergies with climate mitigation has not been achieved. Although, at this point most national recovery plans are finalised and have been approved by the European Commission, there are lessons learned, which need to be considered in the upcoming climate mitigation related negotiations in the EU:

- A large share of the recovery budget may have a substantial climate impact, but still it is unclear whether this is in a positive or negative direction. It will be key to tune those programs to be in line with the 2030 and long-term climate targets of the EU: This means, on the one hand, that the **implementation phase** that now follows, the measures must be closely monitored[16] in order to strengthen the climate and, at the same time, to constantly implement the do-no-significant-harm principle. On the other hand, it is also essential **to critically assess the plans that have not been endorsed yet** in order to prevent measures that carry the risk of promoting infrastructure for fossil gas[17].
- Specifically, **energy efficiency** must be given a stronger emphasis. E.g. in the **buildings** sector the overall share of funding allocated to energy renovation across the 18 Member States is estimated only at 8.4%, which falls short of the Commission's illustrative 12% of RRF funds overall being allocated to renovation. Increasing this share seems not to be a feasible option anymore at this point. What is possible however, is

[16] In the endorsed RRP of Romania, there is an investment for the construction of a green hydrogen network included, though it is very unlikely that there will ever be any hydrogen in these pipelines. Find more details here: https://www.enpg.ro/wp-content/uploads/2021/11/EPG_Romanias-Post-COVID-19-Recovery-Report.pdf
[17] The final Bulgarian RRP (not endorsed yet), contains measures which are fostering fossil fuels by installing e.g. a network of gas pipelines which are unlikely to ever transport hydrogen.

to shift from medium-level renovation, which is dominant in many plans to deep renovation in line with the EU's climate neutrality target.

- The **energy** sector is the one with the highest share of climate positive and very positive measures in recovery plans. There is a strong support for renewables in the plans of many countries, which now would need to be backed with a reduction of regulatory constraints for higher renewable installation rates. Such steps would also align well with the negotiations for the EU's Renewable Energy Directive and the upcoming revision of National Energy and Climate Plans. Electricity grids, also need an urgent scale up of investments and the lack of focus on this in most recovery plans can be considered a missed opportunity.
- **Industry** is the sector in which alignment of recovery measures with climate mitigation was the weakest. We consider not even 20% of the recovery budget to support climate objectives. A large funding share went broadly into supporting industry at large without any incentives towards the necessary transformation. Against this background it will be necessary that Member States revise plans in order to support industrial decarbonisation. Furthermore, it will be key to ensure comprehensive legislation on industrial decarbonization and funding for investments in the transition at EU level. Additional support for early-stage commercialization of innovative production processes via a stronger Innovation Fund and the provision of Carbon Contracts for Difference (CCFDs), a more robust anti-carbon leakage system will be critical to ensure that strong incentives for industrial companies to shift to cleaner production processes are being created.
- Recovery measures in the **mobility** sector are torn between high shares of positive and very positive measure on the one hand and still a number of negative and very negative measures on the other hand. While investments in rail and bicycle infrastructure clearly aim at transforming the mobility sector, the measures relating to road transport clearly lack ambition. A faster shift towards zero carbon mobility needs to be addressed by combining the shift to electric mobility with stronger support for non-road based mobility and limiting the additional electricity demand, which this shift to e-mobility will imply.

This analysis was written by Helena Mölter, Timon Wehnert (both Wuppertal Institute) and Johanna Lehne (E3G). The authors would like to thank Jacqueline Klingen and Stefan Werland (both Wuppertal Institute) as well as Genady Kondarev, Mihnea Catuti, Vilislava Ivanova and Adeline Rochet (all E3G) for valuable inputs and constructive feedback.

GREEN RECOVERY TRACKER

ANNEX 1: COUNTRIES AND MEASURES INCLUDED IN THE ANALYSIS

Country	Recovery plans and/or measures analyzed
Austria	Recovery and Resilience Plan (April 2021)
Belgium	Recovery and Resilience Plan (April 2021)
Bulgaria	Draft Recovery and Resilience Plan (February 2021)
Czech Republic	Recovery and Resilience Plan (May 2021)
Estonia	Programming for Recovery and Resilience Facility (May 2021)
Finland	Recovery and Resilience Plan (May 2021)
France	Domestic recovery package ("France Relance", September 2020) and Recovery and Resilience Plan (April 2021)
Germany	Domestic recovery package (June 2020) and Recovery and Resilience Plan (April 2021)
Greece	Recovery and Resilience Plan (July 2021)
Hungary	Recovery and Resilience Plan (May 2021)
Italy	Recovery and Resilience Plan (April 2021)
Latvia	Draft Recovery and Resilience Plan (January 2021)
Poland	Recovery and Resilience Plan (April 2021)
Portugal	Recovery and Resilience Plan (April 2021)
Romania	Draft Recovery and Resilience Plan (March 2021)
Slovakia	Draft Recovery and Resilience Plan (March 2021)
Slovenia	Recovery and Resilience Plan (April 2021)
Spain	Recovery and Resilience Plan (April 2021)

GREEN RECOVERY TRACKER

ANNEX F - LESSONS LEARNED (PUBLISHED 19 JANUARY 2022)

Wuppertal Institut

E3G

GREEN RECOVERY TRACKER

Last update: 19/01/2022

HOW TO GO ABOUT MEASURING ALIGNMENT OF FUNDING WITH CLIMATE TARGETS?

Two urgent and all-encompassing political challenges unfolded simultaneously in 2020 and 2021: the need to respond to and recover from the COVID-19 crisis, and the need to accelerate and implement the European Green Deal. Politicians and policy experts alike quickly agreed that an effective allocation of economic recovery spending would require the pursuit of a **"green recovery"**: addressing the economic crisis at the same time as the climate and biodiversity crises.

In Europe, national governments and the European Union were deploying large recovery packages to bring their economies back on track. This included a ground-breaking €750bn recovery package for the entire EU ("Next Generation EU"), with the €672.5bn Recovery and Resilience Facility (RRF) as its central element. The RRF was set up to enable recovery measures in all EU member states, based on Recovery and Resilience Plans (RRPs) prepared by national governments. European leaders agreed that the EU's recovery must be aligned with the green and digital transition. Thus, the RRF regulation demanded that **at least 37% of the spending in National Recovery Plans support the green transition**, with the remainder of the funding doing no harm to the transition. The 37% target led to intense negotiations and discussions between EU member states and the Task Force created by the European Commission to assess the RRPs. The process of drafting and revising RRPs in coordination with the European Commission **significantly improved the quantity and quality of climate-spending** in a number of member state plans.

The Green Recovery Tracker assessed the effects of individual measures contained in national recovery plans and packages on the transition to a climate neutral economy taking into account **the contribution of activities to climate change mitigation efforts.** In doing so, our independent assessment methodology built on the EU taxonomy as well as, with regards to climate mitigation, on the climate tracking methodology outlined in **Annex VI**[i] of the RRF Regulation.

If we compare retrospectively our results with national assessments and the assessments by the European Commission, it becomes apparent that we often deviated from it[1]: While all endorsed plans by the EU meet or exceed the 37% target, we find only 4 countries fulfilled the climate spending target.

[1] Find more on this in the box at the bottom of the report.

GREEN RECOVERY TRACKER

THE GREEN RECOVERY TRACKER - ASSESSING UNCERTAIN INFORMATION

The Green Recovery Tracker has been a struggle with **uncertainty**, with preliminary and incomplete data. The idea for the Tracker was born in spring 2020 when governments started making announcements on economic Corona recovery measures. We started developing our methodology in early fall 2020 - at a time when the EU RRF was just being set up. So we were developing our methodology of assessing the climate impact of recovery measures in parallel to the EC developing the formal methodology of the RRF. Obviously, we had a close look at this process and tried to align our approach to the EU Taxonomy and official RRF methodology wherever this was possible and in our view made sense. But there are differences - partly because we came to different conclusions on what can be considered green i.e. be in line with the target of becoming climate neutral by mid century (e.g. concerning the use of natural gas) - partly we had to make decisions before the official methodologies were formally agreed upon.
The struggle with uncertainty continued when it came to assessing the national recovery plans. The Tracker was never meant to be an academic exercise - but a tool, which supports policy makers and civil society in comparing recovery plans across the EU, while they are in the making and still can be altered. So we engaged with national experts to assess draft recovery plans (often informal or leaked drafts) with a common methodology. Needless to say, our assessments were outdated as soon as a new draft appeared. And for many countries we had to make updates of our assessments.

Why do we spend a whole box on describing this process?
Because we think it is important to understand this process, to adequately value the learnings from the Green Recovery Tracker. The great strength of the Tracker was that it provided orientation within an ongoing, within an extremely fast political process - in a few months decisions were taken on how to spend hundreds of billions of Euros. A few months later a more valid assessment, based on a rigid scientific methodology would not have been helpful to support the political decision making process anymore. Especially between February and May 2021 the Green Recovery Tracker was shedding light into a process, which many considered a black or at most dimly lit box. For us as a team it was amazing to see who took note of our assessment, who called for more detailed information, how it stimulated discussions across institutions in various member states - who had a hard time assessing the recovery plans in their own country, but now could draw comparisons to good and bad practice in other EU member states.
Now, in 2022 the speed of development has eased off. Now it is time to look at the learnings and identify those which could be helpful for the long-term process. Because aligning public funding and investments with climate objectives will be a challenge for years, even for decades to come.

WHAT CAN WE LEARN FROM OUR EXPERIENCE WITH THE GREEN RECOVERY TRACKER?[2]

An **independent, scientific evaluation of RRPs** (in parallel to the evaluation process of the EC) was good and necessary to create transparency and to give civil society the possibility to critically accompany the design process of the plans. **National recovery plans were largely developed behind closed doors**, with little room for independent scrutiny and public participation. We see this as an explanation for why we received numerous inquiries and positive feedback on our analyses - from NGOs, trade unions, think tanks or institutes from the respective member states. For example, we were requested for workshops (e.g. Austria, Italy, Bulgaria) to discuss the respective RRPs with national stakeholders and share with them our findings from the country analyses. Our assessments, especially of draft RRPs, were a valuable resource to enable comparison between countries and support learning between countries.

Moreover, we **experienced a need to exchange on different methodologies as well as on the communication of scientific assessments** as in the course of the pandemic, several recovery trackers popped up. Though the various trackers differ in methodology, the scope of countries and/ or the dimension of investigation, there was a significant overlap in results. An exchange across several tracker initiatives was initiated by the International Institute for Sustainable Development (IISD)[3]. This group of tracker initiatives, which brought together more than 30 of the world's leading research institutions, developed **a call**[II] to heads of state and government worldwide to use Covid-19 funding for nature and climate-friendly investments. In addition, the World Bank Group initiated a dedicated Working Group on Green Recovery with the participation of the Green Recovery Tracker in order to commonly develop a Theory of Change for green recovery.

WHAT NEEDS TO HAPPEN NEXT?

While the official **Recovery and Resilience Scoreboard**[III] displays EU countries' progress in implementing their recovery and resilience plans and shows common indicators to report on progress and evaluate the Recovery and Resilience Facility and the national plans, we see **the need for continued independent monitoring of the implementation of RRPs on national level** in order to strengthen the climate component and, at the same time, to continue to ensure that the the do-no-significant-harm principle is upheld. The Green Recovery Tracker found 26% (€ 183bn) of all measures are likely to have a climate effect but whether or not that effect would be positive or negative or how impactful it would be was uncertain at the time of assessment, given a lack of clarity or detail in how measures would be implemented. These measures were often assessed

[2]Our lessons learned on what can be learned from the political process of setting up the RRF can be found here: https://www.e3g.org/news/investing-in-the-next-generation-lessons-from-the-eu-recovery-and-resilience-facility/

[3] IISD is co-leading the Energy Policy Tracker

positively by the EU Commission, and will require specific attention and monitoring during the implementation period.
We have observed that many recovery plans contain measures that have a positive effect on climate protection. However, most of the plans do not reveal a vision or holistic strategy in order to achieve climate-neutrality. Moreover, they are not linked to National Energy and Climate Plans (NECPs) - planning and reporting framework, under the Energy Union Governance Regulation- or only linked to outdated plans. Thus, the European Commission needs **to ensure comprehensive legislation and funding for investments in the transition to climate neutrality at EU level in order to avoid lock-in effects of investments.** As part of this, all member states need to revise and update their NECPs.

Our factsheet[IV] takes stock of the recovery efforts in the **energy, industry, building and mobility sectors.** We analyzed the quantity and quality of climate spending and highlighted **opportunities and shortcomings that will be critical for the climate-neutral transition** in each of these sectors in the coming years.

As the recent discussions around the EU Taxonomy on sustainable finance show, the political debate over what counts as "green" or "sustainable" has not yet been resolved. A key challenge continues to be that questions around sustainability get mixed up with other objectives (such as e.g. security of energy supply). No matter where the final debates around the taxonomy end up, we see the **need for an independent tracking platform** which assesses public and private funding for investments **across several dimensions** - one possibility would be to align these with the targets defined in the EU taxonomy: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to a circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems.

GUIDANCE FOR FUTURE FUNDING PROGRAMS AND ACHIEVING CLIMATE TARGETS OVERALL

We developed this guidance based on our lessons learned. It aims to help identify what is important a) for a Green Recovery but also b) in general for economic stimulus programs that address climate change. Some of the points listed were also planned by the EU in the RRF and show what good practice could look like, though some of them were then only poorly applied.

- Definition of a **target** (e.g. share of spending in programs/ plans to climate measures) that is sufficient to meet the defined mid- to long-term climate targets.
- Providing a dedicated **climate tracking methodology.**

- If not implemented yet, a **comprehensive national decarbonization strategy** must be developed which sets out the most strategic investments to guide the drafting process of stimulus programs/ recovery plans.
- Economic stimulus programs must be aligned **with current and up-to-date climate protection plans** (such as NECPs) in order to reach set targets of emissions reductions
- Allow and actively support **public participation** in the development of decarbonization strategies, as well as in the development of specific projects and measures: there is rich expertise available among national civil society organizations and of citizens in decisions that will be key to their future wellbeing
- **Review and close monitoring** of measures with defined milestones as they are implemented.

By their very nature, recovery programs usually need to be set up and implemented quickly, whereas funding programs in general have a longer horizon for planning. This tension between fast implementation and the need for good governance played a critical role in the initial phase around the set-up of the Recovery and Resilience Facility: on the one hand, the money had to be disbursed to the EU member states as quickly as possible, on the other hand, the recovery plans had to be coherent with the defined targets and the regulatory framework. In order for recovery programs to be effective in terms of climate protection, we advocate that defined decarbonization strategies and assessment methodologies are available and continuously updated so that they can be applied to any recovery programs if needed.

This report was written by Timon Wehnert, Helena Mölter (both Wuppertal Institute) and Johanna Lehne (E3G). We are grateful to the meaningful work by Felix Heilmann and Alexander Reitzenstein (former E3G) as well as Stefan Werland, Jacqueline Klingen (both Wuppertal Institute) and Magdolna Prantner (former Wuppertal Institute).

ABOUT OUR DATA

Deviations between our numbers and official assessments by the European Commission can be explained by methodological differences, including the fact that our methodology **only considered climate mitigation** and not adaptation effects.

Moreover, we counted 26% of all measures as having **a likely climate effect but not assessable** due to uncertainties, which were oftentimes assessed positively by the EU Commission. is allocated to measures that will likely have a climate effect that cannot yet be assessed. This includes measures that combine positive (e.g. energy efficiency) investments with harmful (e.g. fossil gas boilers) investments; or measures that appear positive but when considered in the local context could end up being harmful, such as investments into "hydrogen" infrastructure in regions where it is unlikely that the infrastructure will be utilized for anything except fossil gas in the foreseeable future.

The official Climate Tracking Methodology outlined in Annex VI of the RRF Regulation is the necessary construct for a uniform assessment of measures across all countries. And yet it leaves loopholes and uncertainties in the precise evaluation of individual measures. These uncertainties **include designations of climate spending not clearly in line with the official Climate Tracking Methodology** (e.g. generalized investment support without clear climate conditionalities in various RRPs, energy efficiency investments without assurances on the achievement of the required improved energy standards**), measures being designated as green even though their climate contribution is at the very least doubtful** (e.g. investments into new-built housing in Portugal), **and measures that are assessed positively by governments despite them including harmful measures** (e.g. energy efficiency investments including support for fossil gas boilers in Italy, Poland and Czechia). Only the implementation phase will show how green certain measures will be implemented.

REFERENCES

[I] https://www.europarl.europa.eu/doceo/document/TA-9-2021-0038_EN.pdf

[II] https://wupperinst.org/en/a/wi/a/s/ad/7533

[III] https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html

[IV] https://assets.website-files.com/602e4a891047f739eaf5dfad/61c1c72f2784e84b32f53998_GRT_2021_FACTSHEET_20211221.pdf

GREEN RECOVERY TRACKER

ANNEX G - KNOWLEDGE HUB

Wuppertal Institut

E3G

KNOWLEDGE HUB

Author(s) - names or institution	Scope	Date	Title	Short summary	Link
Center for the Study of Democracy (CSD)	Bulgaria	2019	Stifted Decarbonisation assessing the Bulgarian National Energy and Climate Plan	The current report analyses the draft Bulgarian National Energy and Climate Plan (NECP) and pinpoints the main obstacles for the implementation of decarbonisation policies in the electricity sector.	https://csd.bg/fileadmin/user_upload/publications_library/files/2019_06/DECARBONISATION_ENG_WEB.pdf
Center for the Study of Democracy (CSD)	Bulgaria	2017	SEERMAP: South East Europe Electricity Roadmap Country report Bulgaria	The South East Europe Electricity Roadmap project (SEERMAP) develops electricity sector scenarios until 2050. The project focuses on nine countries in South East Europe	https://csd.bg/fileadmin/user_upload/publications_library/files/23278.pdf
Center for the Study of Democracy (CSD)	Bulgaria	2017	A Roadmap for the Development of the Bulgarian Electricity Sector within the EU Until 2050: Focus on Fundamentals	Policy Brief	https://csd.bg/fileadmin/user_upload/publications_library/files/23263.pdf
Center for the Study of Democracy (CSD)	Bulgaria	2020	Accelerated lignite exit in Bulgaria, Romania and Greece	The aim of this report is to support decision makers in Bulgaria, Greece and Romania to implement a timely phase-out of coal by analysing the impact on electricity systems as well as the local economy, and highlighting policy recommendations to deal with potential issues related to compensation, system security and local economic impacts.	https://csd.bg/publications/publication/accelerated-lignite-exit-in-bulgaria-romania-and-greece/
Center for the Study of Democracy (CSD)	Bulgaria	2020	Policy Brief No. 92: Lost in transition: Bulgaria and the European Green Deal	This policy brief analyses the main elements of the final version of the Bulgarian NECP and proposes targeted policy measures on how to better implement it over the next decade.	https://csd.bg/publications/publication/policy-brief-no-92-lost-in-transition-bulgaria-and-the-european-green-deal/
Center for the Study of Democracy (CSD)	Bulgaria	2020	Policy Brief No. 95 Now or never: will Bulgaria catch the last train to green economic recovery?	Policy Brief	https://csd.bg/fileadmin/user_upload/publications_library/files/2020_12/Policy_Brief_95_EN.pdf
Capgemini	EU	2020	Fit for net-zero: 55 Tech Quests to accelerate Europe's recovery and pave the way to climate neutrality	This report, commissioned by Breakthrough Energy, provides a practical action plan and investment guide for policy makers and investors, to help stimulate economic transition at the speed and scale needed to avoid the worst effects of climate change. With its 55 actionable recommendations for financial support, it targets the utilization of the European Commission's €750 billion recovery fund, and other innovation funding vehicles, to transform Europe's economy and set it on course for climate neutrality by 2050.	https://www.capgemini.com/resources/investments-in-next-generation-clean-technologies/
E3G	EU	2020	Drafting Recovery Plans for a Resilient and Green Economy	In this briefing, E3G maps the knowns and unknowns of Europe's economic recovery from the COVID-19 crisis and efforts to align it with the European Green Deal. The briefing emphasizes that national governments in the EU must already plan their national efforts in the context of the EU Recovery and Resilience Facility to include a contribution of at least 37% of funding to climate objectives, while ensuring that the remainder of the funding does not harm the European Green Deal's objectives and does not support new fossil fuel activities.	https://www.e3g.org/publications/drafting-recovery-plans-for-a-resilient-and-green-economy/
Ecologic Institute	EU	2020	Why the EU Recovery and Resilience Facility Must Prioritise Investments in Building Renovation	This think piece makes the case for earmarking a minimum share of the Recovery and Resilience Facility (RRF) to finance in-depth building renovations. The method we recommend is to allocate RRF funds according to the building sector's share of total GHG emissions, in line with the EU's green recovery commitments and the requirement to spend 37 % of the Recovery and Resilience Facility grants and loans on climate-related investments.	https://www.ecologic.eu/17766
EU Technical Expert Group on Sustainable Finance	EU	2020	Taxonomy Report: Technical Annex	Updated methodology & Updated Technical Screening Criteria for the EU Taxonomy.	https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf
European Commission	EU	2021	Winter 2021 Economic Forecast; Eurostat; own analysis	The report gives an overview of the challenges for the EU from the coronavirus crisis. It resports vaccine status, GDPs and Inflation rates.	https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/winter-2021-economic-forecast-challenging-winter-light-end-tunnel_en
European Commission	EU	2021	Cohesion Fund	The European Commission reports the amount of the Cohesion Fund at €72 671 574 109. It covers 15 countries and is allocated to trans-European transport networks and projects covered by EU environmental priorities.	https://cohesiondata.ec.europa.eu/funds/cf#
European Parliament	EU	2021	Establishing the Recovery and Resilience Facility	This is a legislative resolution on the proposal for a regulation of the European Parliament and of the Council establishing a Recovery and Resilience Facility. Annex I sets out the methodology for calculating the maximum financial contribution available for each Member State. Annex XI comprises a methodology for climate tracking (Coefficient for the calculation of support to climate change objectives / environmental objectives).	https://www.europarl.europa.eu/doceo/document/TA-9-2021-0038_EN.pdf

Author(s) - names or institution	Scope	Date	Title	Short summary	Link
EY	EU	2020	A Green Covid-19 Recovery and Resilience Plan for Europe	This EY report identifies over 1,000 possible green recovery projects in the member states of the European Union.	https://www.euractiv.com/wp-content/uploads/sites/2/2020/09/EY-Green-Recovery-Summary-report.pdf
WiseEuropa	EU	2021	Europejskie plany odbudowy: krajowe cele – wspólne wyzwania	European recovery plans: national targets - common challenges - The article identifies four main structural challenges in the European national recovery and resilience plans published to date.	https://wise-europa.eu/2021/02/11/europejskie-plany-odbudowy-krajowe-cele-wspolne-wyzwania/
CAN France	France	2020	Plan de relance : Les 43 milliards d'euros prioritaires pour le Réseau Action Climat	Communication estimating the needs for ecological transition at around €43bn	https://reseauactionclimat.org/plan-relance-43-milliards-pour-le-climat/
Fondation Nicolas Hulot	France	2020	Plan de relance : 5 conditions pour réussir et 3 secteurs clés à réguler	Set of priorities presented by the Fondation Nicolas Hulot, requesting mostly a commitment €20bn per year until 2030 for the transition and a "do not harm" principle	http://www.fondation-nature-homme.org/magazine/plan-relance-conditions-pour-reussir-secteurs-a-reguler
Gouvernement de France	France	2020	France Relance	This report covers the measures that are contained in France Relance. France Relance is the French recovery package.	https://www.economie.gouv.fr/plan-de-relance
Haut Conseil pour le Climat	France	2020	France Relance: Quelle contribution A La Transition Bas-Carbone (2020). Rapport. France	This report is written by the "Haut Conseil pour le Climat" in order to assess the climate spendings of France Relance.	https://www.hautconseilclimat.fr/actualites/le-hcc-presente-son-rapport-france-relance-quelle-contribution-a-la-transition-bas-carbone/
I4CE	France	2020	Investing in Climate can Help France Drive its Economic Recovery	In this report, I4CE proposes a set of actions based on a quantified analysis for France across seven sectors that are covered by the National Low-Carbon Strategy (Stratégie Nationale Bas-Carbone, SNBC). I4CE's proposal calls for a public finance package of 7 billion euros per year that is estimated to trigger 19 billion euros of additional public and private investment.	https://www.i4ce.org/download/investing-in-climate-can-help-france-drive-its-economic-recovery/
I4CE	France	2019	Landscape of climate finance in France	This study is a comprehensive study of domestic financial flows in favour of climate and the broader energy transition in France. The study maps the flows supporting investments leading to greenhouse gas mitigation across the French economy.	https://www.i4ce.org/download/landscape-of-climate-finance-in-france-2019-edition/
Ministere de la transition écologique et solidaire	France	2020	Stratégie nationale bas-carbone	The National Low-Carbon Strategy (NBCS) describes France's roadmap for leading the climate change mitigation policy. It provides guidelines for implementing the transition to a low-carbon economy in all sectors of activity.	https://www.ecologie.gouv.fr/strategie-nationale-bas-carbone-snbc
WWF France	France	2020	Monde d'aprés : L'emploi au coeur d'une relance verte	Study published by WWF with EY earlier this summer, with a focus on jobs which could be saved or created thanks to a Green stimulus package	https://www.wwf.fr/sites/default/files/doc-2020-07/20200710_Rapport_Monde-apres-emploi-au-coeur-relance-verte_WWF-min.pdf
Andrijevic, M., et al.	General	2020	COVID-19 recovery funds dwarf clean energy investment needs	This paper shows that low-carbon investments to put the world on an ambitious track toward net zero carbon dioxide emissions by mid-century are dwarfed by currently announced COVID-19 stimulus funds.	https://science.sciencemag.org/content/370/6514/298
Cambridge Econometrics	General	2020	Assessment of Green Recovery plans after COVID-19	This analysis, commissioned by the We Mean Business coalition and conducted by Cambridge Econometrics, shows that green recovery plans boost income, employment and GDP better than return-to-normal stimulus measures, with the added benefit of reducing emissions.	https://www.camecon.com/news/green-recovery-plans-more-effective-than-return-to-normal-stimulus/
Christian Aid	General	2020	Whose Green Recovery?	This report analyses the various economic stimulus plans around the world and warns that post-Covid stimulus packages are in danger of widening global inequality and pushing poorer countries to turn to fossil fuels.	https://www.christianaid.org.uk/resources/our-work/whose-green-recovery
Energy Policy Tracker	General	2020	Energy Policy Tracker	The Energy Policy Tracker database provides a detailed overview of the public finance flows as determined by recovery packages across the G20.	https://www.energypolicytracker.org/
German Environment Agency	General	2020	The Green New Consensus: Study Shows Broad Consensus on Green Recovery Programmes and Structural Reforms	The paper analyses 130 studies on green recovery programmes. It finds broad consensus on the need to use the Covid-19 recovery efforts to also address the climate and biodiversity crises. Consensus also exist on the benefits of green recovery programmes, the eligibility criteria to be applied and suitable areas of support.	https://www.umweltbundesamt.de/publikationen/the-green-new-consensus-study-shows-broad-consensus
IISD	General	2020	Sustainable Recovery 2020	The IISD's Sustainable Recovery 2020 campaign provides an overview of commentary, ressources and recent developments with regards to the sustainable recovery from Covid-19.	https://www.iisd.org/sustainable-recovery/
International Energy Agency	General	2020	Sustainable Recovery - World Energy Outlook Special Report	In response to calls from governments around the world, the IEA has produced a Sustainable Recovery Plan for actions that can be taken over the next three years. This detailed plan is focused on cost-effective measures that could be implemented during the specific timeframe of 2021 to 2023. It spans six key sectors – electricity, transport, industry, buildings, fuels and emerging low-carbon technologies.	https://www.iea.org/reports/sustainable-recovery
Obergassel, Wolfgang; Hermwille, Lukas; Oberthür, Sebastian	General	2020	Harnessing international climate governance to drive a sustainable recovery from the COVID-19 pandemic	This article discusses how international climate governance may help align the recovery packages with the climate agenda. For this purpose, the article investigates five key governance functions through which international institutions may contribute: send guidance and signals, establish rules and standards, provide transparency and accountability, organize the provision of means of implementation, and promote collective learning.	https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1835603

Author(s) - names or institution	Scope	Date	Title	Short summary	Link
REKK, TU Wien, OF Research, EKC	General	2017	SEERMAP: South East Europe Electricity Roadmap South East Europe Regional report 2017	The South East Europe Electricity Roadmap project (SEERMAP) develops electricity sector scenarios until 2050. The project focuses on nine countries in South East Europe	https://csd.bg/fileadmin/user_upload/publications_library/files/23238.pdf
UNECA	General	2020	Building Forward Together	This UNECA paper recommends immediate actions that can and must be taken by developing and developed economies, by the public and private sector together, to restore liquidity, handle insolvency, and build the foundations for recovery, continuing the process of rebooting the system and delivering on Agenda 2063 and the SDGs.	https://www.uneca.org/sites/default/files/PublicationFiles/building_forward_together.pdf
Vivid Economics	General	2020	Greenness of Stimulus Index	Vivid Economics' Greenness of Stimulus Index assesses the effectiveness of the Covid-19 stimulus efforts by G20 countries and other major economies in ensuring an economic recovery that takes advantage of sustainable growth opportunities, and builds resilience through the protection of the climate and biodiversity.	https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/
World Bank	General	2020	Planning for the economic recovery from COVID-19: A sustainability checklist for policymakers	To provide more granular guidance for policymakers, the World Bank has developed a draft of a sustainability checklist that government ministries can use to assess or rank stimulus proposals.	https://blogs.worldbank.org/climatechange/planning-economic-recovery-covid-19-coronavirus-sustainability-checklist-policymakers
Agora Energiewende & Agora Verkehrswende	Germany	2020	Dual-Benefit Stimulus for Germany	In this impulse paper, Agora Energiewende and Agora Verkehrswende propose a €100bn dual-benefit stimulus programme for Germany for growth and sustainability.	https://www.agora-energiewende.de/en/publications/dual-benefit-stimulus-for-germany/
E3G	Germany	2020	Sustainable Paths out of the Covid-19 Crisis: Impulses for the recovery and a future-proof economy	This E3G briefing proposes a three-stage model for thinking about the economic response to the Covid-19 crisis, beginning with stabilization measures, followed by stimulus measures and ultimately measures to build future-proof structures.	https://www.e3g.org/publications/nachhaltige-wege-coronakrise-impulse-konjunktur-zukunftssichere-wirtschaft/
FÖS & DIW econ	Germany	2020	The Nine-Point Plan: Employment and climate protection effects of a green recovery programme	This study, commissioned by Greenpeace, calculates the impact on climate and employment of selected green stimulus measures in German. It shows that economic policies geared to mitigating climate change create jobs in the short term while laying a foundation for long-term innovation and ecological modernisation.	https://www.greenpeace.de/presse/publikationen/der-neun-punkte-plan
German Environment Agency	Germany	2020	Sustainable Pathways out of the Corona Crisis	In this paper the German Environment Agency (UBA) presents initial ideas on how the Corona economic stimulus packages could be made sustainable in the long term, guided by six basic principles.	https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020_pp_nachhaltige_wege_englisch_bf_titel-neu.pdf
Ministry of Finance, Greece	Greece	2020	Strategic directions of the National Recovery and Resilience Plan	This official document sets out priorities for the Greek recovery spending as a draft basis for the national recovery and resilience plan.	http://www.opengov.gr/minfin/wp-content/uploads/downloads/2020/11/Greece-RRP-EN-1.pdf
Ministry of the Environment and Energy	Greece	2019	National Energy and Climate Plan (NECP)	This official document marks the Greek's government's strategic roadmap outlining priorities and policy measures for reaching climate and energy objectives by 2030.	https://ec.europa.eu/energy/sites/ener/files/el_final_necp_main_en.pdf
Pissarides, Christopher; Vayanos, Dimitri; Vettas, Meghir, Costas	Greece	2020	Growth Plan for the Greek Economy (in Greek)	This report analzying future trends in the Greek economy and providing wide economic policy recommendations was written by a commission chaired by Greek Nobel laureate and economist C. Pissarides on behalf of the Greek PM. It was to serve as a basis for the Greek National Recovery and Resilience Plan.	https://government.gov.gr/wp-content/uploads/2020/11/growth_plan_2020-11-23_1021.pdf
WWF Greece	Greece	2020	Blueprint for a green recovery in Greece	This study by WWF Greece points out possibilities for a green recovery in Greece, including an analysis of the shortcomings of the National Energy and Climate Plan as well as principles for an effective recovery and concrete proposals for a stimulus programme.	https://wwfeu.awsassets.panda.org/downloads/wwf_greece_green_recovery_report_eng.pdf
Ágnes Kövér, Attila Antal, Izabella Deák	Hungary	2021	Civil Society and COVID-19 in Hungary: The Complete Annexation of Civil Space	Research article on the situation of the civil society and COVID-19 in Hungary	https://www.degruyter.com/document/doi/10.1515/npf-2020-0060/html
Alexa Botár, Teodóra Dönsz-Kovács - MTVSZ - Friends of the Earth Hungary / CEE Bankwatch Network	Hungary	2021	Assessment of Hungary's recovery and resilience plan	Brief assessment of the draft Hungarian plan April 2021	https://euagenda.eu/publications/assessment-of-hungary-s-recovery-and-resilience-plan

Author(s) - names or institution	Scope	Date	Title	Short summary	Link
Dávid Dorosz, Krisztina Hegedűs, Dániel Prinz, Dániel Róna, and László Sebián-Petrovszki	Hungary	2021	COVID-19 in Hungary Challenges and Opportunities for Progressives	Research article on COVID-19 and recent political developments in Hungary	https://cdn.americanprogress.org/content/uploads/2020/12/17120823/COVID19-in-Hungary.pdf
Energiaklub	Hungary	2021	Brief Summary - Energiaklub's Experts Opinion of Hungary's Recovery and Resilience Plan	Brief Summary -Energiaklub's Experts Opinion of Hungary's Recovery and Resilience Plan	https://energiaklub.hu/files/news/Brief%20summary%20of%20Energiaklub%20on%20the%20NRRP_EN.pdf
Energiaklub	Hungary	2016	Summary	Analysis of changes in residential electricity prices linked to legislative changes and fundamental changes in pricing mechanisms.	https://energiaklub.hu/files/study/osszefoglalo.pdf
Eszter Nova - Friedrich Naumann Foundation	Hungary	2021	Outlook for Hungary for 2021	Political analysis on the recent situation in Hungary	https://www.freiheit.org/central-europe-and-baltic-states/outlook-hungary-2021
euobserver	Hungary	2021	Hungary heads EU anti-fraud investigation list - again	Hungary leads the EU's anti-fraud agency's list of member states where irregularities have been found in EU funds between 2015 and 2019.	https://euobserver.com/justice/149405
euobserver	Hungary	2020	Orban's risky bet in economic response to coronavirus	Report about Hungary's response to the coronavirus	https://euobserver.com/opinion/148201
European Commission	Hungary	2021	Hungary	Economic forecast of Hungary	https://ec.europa.eu/economy_finance/forecasts/2020/autumn/ecfin_forecast_autumn_2020_hu_en.pdf
IMF	Hungary	2021	Hungary	Policy responses to COVID-19	https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#H
István Bart, Dóra Csernus, Fanni SáfiánClimate Strategy 2050 Institute	Hungary	2018	Analysis of climate-energy policies & implementation in Hungary	Analysis of climate-energy policies & implementation in Hungary	http://eko-unia.org.pl/wp-content/uploads/2018/06/mini-report-1_Hungary.pdf
KPMG	Hungary	2020	Hungary: Surtaxes imposed on credit institutions, retail sector (COVID-19)	New surtaxes apply and will be levied on credit institutions and the retail sector as part of the government's response to the coronavirus (COVID-19) pandemic.	https://home.kpmg/us/en/home/insights/2020/04/tnf-hungary-surtaxes-imposed-credit-institutions-retail-sector.html
LSE	Hungary	2021	Climate Change Laws in Hungary	Summary of Hungarian climate change laws	https://www.climate-laws.org/geographies/hungary/policies/hungary-s-national-energy-and-climate-plan
MTVSZ - Friends of the Earth Hungary	Hungary	2021	Energiafordulat	Publications of MTVSZ -Friends of the Earth Hungary on the Hungarian energy transition	https://mtvsz.hu/energiafordulat
Reuters	Hungary	2021	EXCLUSIVE Worried by 'systemic' fraud, EU ties recovery funds to Hungary procurement reform	The European Union's executive has told Hungary to reform its public procurement laws to curb systemic fraud.	https://www.reuters.com/world/europe/exclusive-worried-by-systemic-fraud-eu-ties-recovery-funds-hungary-procurement-2021-02-08/
Teodóra Dönsz-Kovács, NSC-FoE Hu, Alexa Botár, Bankwatch	Hungary	2021	Hungary's recovery plan – not green, just, or resilient	Brief assessment of the Hungarian recovery and resilience plan June 2021	https://bankwatch.org/blog/hungary-s-recovery-plan-not-green-just-or-resilient
bne Intellinews	Latvia	2020	Baltic states roll out fiscal measures to prop up coronavirus-stricken economies	The website provides a brief overview of the relief and stimulus programs to mitigate the effects of the Corona outbreak for Estonia, Latvia, and Lithuania. A negative GDP is expected for the countries.	https://www.intellinews.com/baltic-states-roll-out-fiscal-measures-to-prop-up-coronavirus-stricken-economies-178945/
Crowdfund Insight	Latvia	2020	Latvia-headquartered Citadele Bank Contributes €10 Million to Fintech SME Finance, Offers Loan Relief to Clients during Coronavirus Pandemic	The article by Omar Faridi presents the Citadele Banks' financial relief program. The program is provides financial relief to clients who are unable to meet their credit obligations due to the Corona pandemic.	https://www.crowdfundinsider.com/2020/03/158999-latvia-headquartered-citadele-bank-contributes-e10-million-to-fintech-sme-finance-offers-loan-relief-to-clients-during-coronavirus-pandemic/
Gen Policy	Latvia	2020	Hack the Crisis: From Ideas to Solution Design in Just 6 Hours	The article presents the 6-hour online hackathon, that took place in Estonia, seeking designs to combat the Corona pandemic crisis. The idea was taken up in neighboring Latvia and Poland.	https://www.genglobal.org/start-up-nations/hack-crisis-idea-execution-just-6-hours

Author(s) - names or institution	Scope	Date	Title	Short summary	Link
Ministry of Finance of the Republic of Latvia	Latvia	2021	European Recovery and Sustainability Mechanism/Eiropas Atveseļošanas un noturības mehānisms	This report is about the European recovery funding, especially the Recovery and Resilience Facility (ANM) , a new EC centrally managed budget program	https://www.esfondi.lv/atveselosanas-un-noturibas-mehanisms#
WiseEuropa	Poland	2020	Green Recovery. From crisis to sustainable recovery	The report identifies the challenges for Poland associated with the Recovery Fund. The main challenge for Poland's recovery is to ensure that the projects identified through the National Recovery and Resilience Plan, the recovery actions and the current climate and energy plans are coherent.	https://wise-europa.eu/wp-content/uploads/2020/11/Green-Recovery.-From-crisis-to-sustainable-recovery.pdf
WiseEuropa	Poland	2021	Polish Sustainable Recovery Monitor	The Polish Sustainable Recovery Monitor compiles information on recovery measures in Poland and provides a monthly short report with updates.	https://wise-europa.eu/en/polish-sustainable-recovery-monitor-2/
WiseEuropa	Poland	2021	Odbudowa gospodarki po pandemii COVID-19	This website provides an overview of various articles on the topic of "Rebuilding the economy after the COVID-19 pandemic".	https://wise-europa.eu/odbudowa-po-covid-19/
ECO	Portugal	2020	CIP elogia aposta do Plano de Recuperação em melhorar a Função Pública porque isso ajuda as empresas	The article "CIP praises the Recovery Plan's focus on improving the Civil Service because it helps companies", describes the focus of the recovery program: The improvement of public services.	https://eco.sapo.pt/2020/09/22/saraiva-elogia-aposta-do-plano-de-recuperacao-em-melhorar-a-funcao-publica-porque-isso-ajuda-as-empresas/
IMF	Portugal	2020	Policy Responses to COVID-19	The website provides an overview of the economic management of the coronavirus pandemic in Portugal and shows the timeline of policy actions.	https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#P
Público	Portugal	2021	Bruxelas quer barragens, estradas e pontes fora do PRR	The article "Brussels wants dams, roads and bridges outside the RRP", reports on the Commission's doubts about several investments included in the Portuguese recovery plan.	https://www.publico.pt/2021/03/12/economia/noticia/bruxelas-quer-barragens-estradas-pontes-prr-1954115
SIC Noticias	Portugal	2020	PSD apresenta "programa estratégico" para fundos europeus da próxima década	The articel: "PSD presents 'strategic programme' for European funds for the next decade", gives an short evaluation of the measurements.	https://sicnoticias.pt/economia/2020-10-05-PSD-apresenta-programa-estrategico-para-fundos-europeus-da-proxima-decada
ZERO	Portugal	2020	Parecer sobre a “Visão Estratégica para o Plano de Recuperação Económica de Portugal 2020-2030”	The report "Opinion on the Strategic Vision for the Portuguese Economic Recovery Plan 2020-2030" considers the Recovery plan as a key element to define Portugals future.	https://zero.ong/wp-content/uploads/2020/08/zero.ong-zero-usando-um-semaforo-maioria-das-medidas-da-visao-estrategica-2030-estao-a-laranja-ou-vermelho-zero-parecer-sobre-visao-estrategica.pdf
Denník E	Slovakia	2021	Ministerstvo dopravy trvá na tom, že nemôže pomôcť dopravným podnikom na Slovensku	The article describes the ability of transport companies in Slovakia to cope with the pandemic. The companies lost considerable income as a result of the pandemic	https://e.dennikn.sk/minuta/2294162
IMF	Slovakia	2021	Policy Responses to COVID-19	The website provides an overview of the economic management of the coronavirus pandemic in Slovakia and shows the timeline of policy actions.	https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#S
Slov-Lex	Slovakia	2021	Zákon o mechanizme na podporu obnovy a odolnosti a o zmene a doplnení niektorých zákonov	Law on the Mechanism for Supporting Renewal and Resilience and on Amendments to Certain Laws.	https://www.slov-lex.sk/legislativne-procesy/SK/LP/2021/110
Slovak Ministry of Economy	Slovakia	2019	Integrated Energy and Climate Plan; European Commission (2020). Assessment of the final national energy and climate plan of Slovakia	This document is the integrated energy and climate plan of the Slovak Republic. The priorities of the energy policy are: an optimal energy mix, strengthening the security of energy supply, improving the energy infrastructure, and diversification of energy sources and distribution routes.	https://ec.europa.eu/energy/sites/default/files/sk_final_necp_main_en.pdf