State of Implementation of the EU Green Bonds Programme linked to the Next Generation EU Plan

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Introduction

On May 27th, 2020, the European Commission presented the "Next Generation EU" plan, worth € 750 billion. This sum came as a middle ground between the € 1000 billion that countries hit the hardest by the pandemic (such as Italy and Spain) had proposed, and the more frugal € 500 billion plan supported by France and Germany. After difficult discussions at the European Council, a political agreement on this plan and its conditions was reached in July 2020. The European Union adopted this economic recovery package to support the EU member states in their recovery from the Covid-19 pandemic in December 2020[1]. Next Generation EU (hereafter designated as NGEU) is predicted to operate from 2021 to 2026.

If NGEU was first and foremost a response to the emergency of the Covid-19 crisis and to the resulting economic downturn that European Union member states were facing, the Commission imagined it as part of something wider. As talks of the impending climate crisis became more and more urgent in the past years, this plan was envisioned as part of the transition towards cleaner and environmentally respectful economies – the green transition. In this, NGEU inscribes itself in the general framework of the European Green Deal with its objectives, notably to cut emissions by 55% by 2030 and to become the first carbon-neutral continent by 2050. The Commission also decided that 30% of NGEU, *i.e.* € 250 billion, was to be funded by issuing NGEU green bonds.

This article aims at providing an evaluation of the green bonds financing of NGEU until now.

1. RRPs (Recovery and Resilience Plans)

In order to get access to EU financing, the member states had to submit, over 2021 and 2022, National Recovery and Resilience Plans (RRPs), which set out their reform and investment agendas up to 2026[2]. They were instructed to set out projects in six policy areas:

- The green transition.
- The digital transformation.
- Smart, sustainable and inclusive growth and jobs.
- Social and territorial cohesion.
- Health and resilience.
- Policies for the next generation, like education and skills.

The recovery and resilience plans were then assessed by the Commission based on different criteria, which include the consistency with the country-specific recommendations made by the European Union, the probability for improvements to the member state's growth potential, job creation and economic and social resilience, and the effective contributions to the green and digital transitions.

The first countries to which the green light was given for their recovery and resilience plans were Austria, Belgium, Denmark, France, Germany, Greece, Italy, Latvia, Luxembourg, Portugal, Slovakia and Spain, on July 13th, 2021. The Council approved the last recovery and resilience plan almost a year and a half later, on December 16th, 2022, for Hungary[3].

The recovery and resilience plans were assessed by the Commission based on a set of criteria, including the fact that **each plan had to allocate at least 37% of the budget to climate and environment, including biodiversity. According to the European Commission, "so far, EU countries whose plans have already been approved have actually exceeded this target, with the estimated climate expenditure now amounting to about 40%[4]".**

1. Morra, M. (2020). Tutte le divisioni nell& # 8217 ; Unione europea sulla risposta alla crisi da Covid-19. Startmag. https://www.startmag.it/economia/tutte-le-divisioni-unione-europea-sulla-risposta-alla-crisi-da-covid-19/
2. A recovery plan for Europe. (2023, 5 avril). European Council. https://www.consilium.europa.eu/en/policies/eu-recovery-plan/
3. A recovery plan for Europe. (2023, 5 avril). European Council. https://www.consilium.europa.eu/en/policies/eu-recovery-plan/
4. Dashboard. (s. d.). European Commission. https://commission.europa.eu/strategy-and-policy/eu-budget/eu-borrower-investor-relations/nextgenerationeu-green-bonds/dashboard_en

2. Conditions to benefit from NGEU Green Bonds

These climate and environment related measures can be financed through the NGEU green bond framework if, and only if, they respond to the necessary areas of funding identified in the NGEU green bond framework and comply with additional criteria. Member states advance the funds, and request payment from the European Union at a later date. This payment is conditional on specific requirements.

The screening process for NGEU projects eligible to green bonds is strict and was implemented in order to ensure that funding from the green bonds are solely used for green-related activities. The evaluation starts with a screening of the national recovery and resilience plans of the member states, more specifically the part allocated to its climate-relevant expenditures.

From a green bond perspective, the criteria of particular relevance are the following: (1) whether the measure is correctly assigned to the notified intervention field, and (2) whether the measures comply with the 'do no significant harm' principle, defined in Article 17 of the Taxonomy Regulation.

In addition, the Commission assesses what it names the "climate coefficient". This determines to what extent the measures are climate relevant. As such, a distinction is made between measures marked as 100% relevant, and measures marked as 40% relevant, in line with the RRF climate coefficient methodology. This determines what the percentage of funding through NGEU green bonds will be. If an RRP measure is assigned a 40% climate coefficient, only 40% of the total expenditure will be funded through green bonds[5].

Following this first assessment, all climate relevant measures in the RRPs are subject to a due diligence analysis prior to being admitted in the group of measures that will effectively receive NGEU green bond financing. Several steps are present in this second assessment, notably one where the Commission assesses the risk factors associated with individual measures. This can include for example measures that are linked to natural gas, an energy source excluded from NGEU green bonds financing, and the measure would therefore receive a high-risk score. From this, depending on their score, measures either go directly into the pool of eligible financing, or face another check, before a final decision is made on their admission (or not) in the eligible measures[6].

This is not the last check for the good allocation of NGEU green bonds. **In their Recovery and Resilience Plans, member states have to include milestones and targets for all measures, on which they are expected to report biannually.** For each refunding request, the Commission, upon receiving the evidence, assesses it to determine if the milestones and targets have been satisfactorily achieved, allowing it to monitor the implementation of each measure closely and identify any potential issues that may arise. In cases where the conditions for payment are not met, payments are temporarily suspended and may be proportionally reduced if corrections are not made by the member state[7].

Additionally, when requesting payments, Member States report the amount of money actually spent on the individual measures included in the green bond eligibility pool. This allows the Commission to track green bond proceeds from the project to their final allocation to the specific measures.

In its 2022 NextGenerationEU Green Bonds Allocation Report, the Commission reported that the system for allocation functioned according to plan and that green bonds allocated were effectively used by member states to fund climate related measures, in accordance with the green bonds allocation framework. As such, it concludes that "the Commission has had no reason to exclude any measures from the green bond eligibility pool based on their current implementation status[8]".

3. Green bonds issuance

On October 12th, 2021, the European Commission issued its first NextGenerationEU green bond, raising € 12 billion for green and sustainable investments across the EU. This was the world's largest green bond issuance ever and set the pace for the European Union becoming the world's largest green bond issuer by far. This first bond, due on February 4th, 2037, saw an overwhelming response, being oversubscribed by more than 11 times. Johannes Hahn, European Commissioner for Budget and Administration since December 2019, said that this "issuance [was] a strong start for the NextGenerationEU green bond program". He continued by insisting that "our future is green, and it is extremely important that we seize the opportunity

5. Commission Staff Working Document, NextGenerationEU Green Bonds Allocation Report. (2022). Dans European Commission.
6. Idem.
7. Idem.
8. Idem.

to clearly show to investors that their funds will be used to finance a sustainable European recovery[9]".

Other issues took place between December 2021 and early 2023, for a total of several billion euros.

On March 28th, 2023, the European Commission issued its last green bonds to date, with € 6 billion of NextGenerationEU green bonds. This bond, scheduled to mature in February 2048, was oversubscribed 12 times.

Investors from the United Kingdom, Germany and France represent together more than 45% of what was issued (respectively 18.6%, 15.9%, and 12.3%). Less than 10% of investors are from regions outside of the EU. Main investors include fund managers (37.5%), bank treasuries (28.4%), insurance and pension funds (17.5%) and central banks/official institutions (12.5%).

To date, the total volume of NextGenerationEU green bonds issued is € 44.2 billion. The pool of planned eligible expenditure for NextGenerationEU green bonds, however, currently stands at € 187 billion (according to the previsions made from the Recovery and Resilience Plans deposited to the Commission by member states), with this amount due to increase, as further requests are still being submitted or examined by the European Commission[10].

4. Allocation categories

Green bonds funding can be allocated to nine different categories: clean transport & infrastructure; energy efficiency; clean energy and network; water & waste management; climate change adaptation; research and innovation activities supporting the green transition; nature protection; rehabilitation and biodiversity and other[11].

According to the Recovery and Resilience Plans deposited by the member states and approved by the European Commission, five main sectors constitute 75% of EU green bonds eligible amount. As such, clean transport & infrastructure represents 34.2% of the eligible amount. The other four main sectors are Energy Efficiency (25.4%), Clean Energy and Network (16.4%), Water & Waste Management (6.4%) Climate Change Adaptation (6.3%) and Research and Innovation supporting the green transition (5%).

The percentage of the expenditure already spent associated to each category differs importantly from the projected numbers. As such, as of the time of writing, **Energy efficiency has captured 47.6% of the green bonds allocation to date, clean transport & infrastructure 42%, and the rest of the categories represent altogether less than 10% of the funding. Importantly, research and innovation activities supporting the green transition, whose eligible amount was 5.9%, represent only 0.3% of NextGenerationEU green bonds expenditure to date[12].**

Only a few countries have made significant expenditures already in the context of NextGenerationEU projects that can be funded by green bonds. Italy, the country which should benefit the most from NGEU, has for now only spent a little less than 20% of what its RRP planned for green bond expenditures: € 13 Bn for a plan of € 70.286 Bn of expenditures funded through NextGenerationEU green bonds. France, who has also been relatively in advance compared to other countries, has a predicted green bond financing of 14 billion. To date, about a third has been requested, with 5 billion in green bonds expenditure having been allocated. Hungary, the last country which has been the last country to have had its RPP approved, has not spent any euro in **NextGenerationEU** green bonds expenditures.

The total of **reported eligible expenditures by member states to which green bonds proceeds have been allocated to date is only € 21 billion.**

Even for the countries that have effectively started requesting EU green bond funds, the sectoral allocation of expenditures have for now not been proportional to the plans. France, for example, predicted with its RRP expenditures in energy efficiency that would be 41%, and 35.4% for clean transport and energy. As of now, expenditures have been overwhelmingly concentrated in the category of clean transport & infrastructures, with more than 75% of funds that have to date been allocated to France going in that category. Energy efficiency represents a little more than 23%, leaving little space for the other expenditure categories. Progression does not seem to be linear, and member states seem to be prioritizing certain sectors.

Possible explanations as to why the energy efficiency and the clean transport & infrastructure sectors have been prioritized until now include (but are not limited to) the energy crisis that has

9. Press corner, NextGenerationEU: European Commission successfully issues first green bond to finance the sustainable recovery (s. d.). European Commission - European Commission. https://ec.europa.eu/commission/presscorner/detail/en/IP_21_5207

10. Press corner, European Commission issues €6 billion of NextGenerationEU green bonds in fourth syndicated transaction for 2023 (s. d.-b). European Commission - European Commission. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1926

11. Dashboard. (s. d.). European Commission. https://commission.europa.eu/strategy-and-policy/eu-budget/eu-borrower-investor-relations/nextgenerationeu-green-bonds/dashboard_en

12. Idem.

plagued Europe since the beginning of the Russia-Ukraine war. As energy prices rise, member states possibly see a bigger short term positive impact by investing in these categories that help reduce the energy bill. The weakness of R&D expenditures up to date can also be explained by the energy crisis, and by the longer timeline until which it become profitable, but it is crucial that it not be sacrificed, especially in the current situation of a global climate crisis, in which research will have to play a key role to accompany the transition towards a greener economy.

5. Examples of projects funded by NextGenerationEU through green bonds[13]

1. **Clean Transport and Infrastructure** (eligible amount 34.2%, expenditure as of now 42%): France is dedicated to achieving climate neutrality by 2050, and to promote railroad transportation as a greener alternative to road transport. It will invest € 2.3 billion in upgrading local and regional railway lines. This involves replacing tracks, switches, and signaling systems.
2. **Energy Efficiency Share** (eligible amount 25.4%, expenditure as of now 47.6%): Portugal is dedicating € 715 million to decarbonize its industry, focusing on energy-efficient machinery and renewable energy utilization and storage, aiming to achieve energy savings and manage renewable energy capacity.
3. **Clean energy and network** (eligible amount 16.4%, expenditure as of now 2.2%): Italy, the largest recipient of green bond funding, is investing over € 3.6 billion to upgrade its energy distribution system into a smart grid, incorporating advanced software components to optimize its response to various consumer scenarios.
4. **Water & waste management** (eligible amount 6.4%, expenditure as of now 0.7%): Austria is allocating €60 million to enhance plastic waste sorting capacity and depth, increasing the quantity of recycled materials through retrofitting existing facilities and constructing new sorting facilities.
5. **Climate change adaptation** (eligible amount 6.3%, expenditure as of now 5.6%): Slovenia is spending € 280 million on flood prevention adaptations, including expanding existing spillage areas and implementing nature-based solutions, with specific investments targeted at addressing landslide risks.
6. **Research and innovation activities supporting the green transition** (eligible amount 5.9%, expenditure as of now 0.3%): Germany is investing over € 588 million in a pilot research project aimed at decarbonizing the economy through the production of green hydrogen from offshore wind power.
7. **Nature protection, rehabilitation and biodiversity** (eligible amount 3.1%, expenditure as of now 0.4%): Sweden's plan includes a substantial measure, valued at almost € 247 million, aimed at expanding and safeguarding their national nature reserves. The funding will be used to preserve biodiversity and the natural environment by purchasing new land from local owners or providing compensation for new restrictions.
8. **Other** (eligible amount 2.3%, expenditure as of now 1%): Croatia has allocated over € 102 million to enhance green and digital employment and self-employment, adhering to best practices outline by the International Labor Organization for defining green jobs. The program also targets long-term unemployed individuals.
9. **Digital technologies supporting the green transition** (eligible amount 0.2%, expenditure as of now close to 0%): Ireland is allocating more than € 39 million to establish a shared Government Data Center, which involves replacing outdated and energy-inefficient data centers in urban areas with a specialized campus that utilizes data processing heat waste for other buildings' heating.

Conclusion

As the European Commission announced its plan to issue € 250 billion in green bonds between 2021 and 2026, Johannes Hahn described this effort as *"an expression of [the EU's] commitment to sustainability, [which] places sustainable finance at the forefront of the EU's recovery effort*[14]*"*.

For now, as of July 2023, **only € 44,2 billion in green bonds have been issued, representing less than a fifth of the announced funding through green**

13. Commission Staff Working Document, NextGenerationEU Green Bonds Allocation Report. (2022). Dans European Commission.
14. Press corner. (s. d.-c). European Commission - European Commission. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_4565

bonds, and even less has been requested by member states in order to finance part of their Recovery and Resilience Plans. To date, about € 21,4 billion have actually been allocated (and given) to member states.

But for a few exceptions, every European Union country has had their RRP approved by the European Commission since the end of 2021, and the phase of implementation has started, although admittedly not as quick as it could have. It has to be said that **the first two years of implementation have not been very rapid in terms of green transition expenditures that can be financed through green bonds. It remains to be seen whether all the projects will be completed, and how the delay in certain categories will be caught up on.**