Delivering RePowerEU: A solidarity-based proposal for financing additional green investment needs

IMPULSE

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Dear reader,

In March 2022, EU heads of state agreed to phase out the EU's dependency on Russian fossil fuel imports as soon as possible. The Commission has developed a plan, called RePowerEU, to achieve this goal. Its publication is scheduled for 18 May 2022.

It is clear that investment in efficiency and renewables needs to be accelerated and that this will require increased public spending between 2022 and 2027. Less clear, however, is whether EU solidarity will be sufficient to cover the additional public funding needs. Our analysis quantifies the additional public-sector expenditure required to accelerate investments that structurally reduce fossil gas consumption. We argue that without fresh EU funds some Member States will have difficulty delivering on the RePowerEU plan, as they have limited fiscal capacity given the effects of the pandemic and impending economic slowdown.

This paper aims to stimulate discussion on the need to match elevated green and energy security ambition with new EU funds. Our analysis of national financing needs and available EU funds suggests that bolstering the existing Recovery and Resilience Facility by €100 billion would appear sufficient to deliver on the RePowerEU plan and regain Europe's energy sovereignty by 2027.

I hope you find this paper both informative and stimulating.

Matthias Buck
Director Europe, Agora Energiewende

Key findings

1	Regaining Europe's energy sovereignty requires the frontloading of investment in energy efficiency and the more rapid deployment of wind and solar PV. Speeding up the reduction in fossil gas consumption with investment in buildings and industrial plants, as well as in district heating, renewables and power grid expansion, will add €40 billion per year to the EU-wide public green spending needs in 2022–2027.
2	European solidarity calls for enabling all EU countries, including those with limited fiscal capacity, to deliver the RePowerEU Plan – which will require additional EU funding of €100 billion (€80 billion in grants, €20 billion in loans). Using the existing Recovery and Resilience Facility (RRF) for this purpose would make funds available in the 2022-2027 timeframe and allow – together with the unused RRF loans – to scale up investment quickly.
3	Member States should review current spending plans for EU funds and minimise grant support while maximising the use of alternative financing support instruments. However, the current EU budget (2021–2027) only allows for marginal adjustments and does not offer sufficient funding for all types of investment needed to deliver the RePowerEU plan.
4	The top-up to the Recovery and Resilience Facility can be financed with revenues from other climate instruments. One plausible option for financing the additional debt service of €2.9 billion per year in 2028–2058 is to use a share of revenues from carbon pricing, including the proposed ETS for transport and buildings.

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The RePowerEU ambition

To achieve the objectives of the RePowerEU plan, the EU needs to quickly scale up investment in energy efficiency and renewables. An accelerated phase-down of oil and gas consumption will require a frontloading of investments already anticipated to meet the EU's 2030 climate targets.

The RePowerEU plan thus increases investment needs over the next five years. The European Commission aims to frontload the expansion of renewables such that 900 GW of wind and solar capacity is reached by the end of the decade, with gas-fired generation being displaced well before 2030. Moreover, RePowerEU requires 80 GW of renewable power capacity by 2030 on top of the Fit for 55 ambition in the area of green hydrogen. Moreover, investment in biomethane production, as well as heat pumps and energy efficiency in the buildings and industrial sectors, is to be ramped up. Frontloading investment before 2027 increases the public spending needs in the current EU budget period.

In our recent report "Regaining Europe's Energy Sovereignty", we showed how enhanced investment into energy efficiency as well as the rapid expansion of wind and solar PV can permanently reduce fossil gas demand in Europe by 1200 terawatt hours over the next five years, thus eliminating the need for 80 per cent of today's Russian gas imports and enabling 100 per cent substitution of Russian gas when combined with alternative supplies such as LNG. Based on our sector specific analysis, we estimated that an additional €100 billion would be required to enable all countries in Europe to fully deliver on RePowerEU.

In this paper, we extend and refine this part of our analysis by assessing the existing EU funding gap in light of the increased energy security and climate ambition that comes with RePowerEU.

Most of the additional public funding will need to be provided from national budgets. However, some EU solidarity will be necessary to enable all Member States to deliver their additional commitments under RePowerEU. Topping up the Recovery and Resilience Facility is an option that would come with the advantage of using an instrument that is already established, thus allowing the quick deployment of the additional funds.

New EU joint action under RePowerEU increases public spending needs over 2022–2027

We estimate that phasing out Russian gas imports by 2027 adds €40 billion annually to public climate spending needs in 2022–2027 across the EU, thus corresponding to outlays equal on average 0.3% GDP per year up to 2027.[1] Most of the additional spending will need to target energy efficiency and heat pump investment in buildings and industrial plants, as well as investment in district heating and power grid expansion. Member States should also invest in the supply of key clean technologies and in the skills required for their rapid installation and maintenance.

Higher investment needs mean larger public spending gaps. Non-fiscal measures such as targeted loans and innovative financial instruments are important to mobilise the full potential of private capital. Nevertheless, the higher investment needs will require a significant amount of additional grants and subsidies that will have to be provided to households and firms to address market failures and social impacts. These needs come on top of purely public investment required to accelerate the decarbonisation of public

1 Calculations based on the scenario from Agora Energiewende (2022) *Regaining Europe's Energy Sovereignty: 15 Priority Actions for RePowerEU*. The reported increase consists of in part of frontloaded spending from 2028-2030.

assets and the construction of new key infrastructure. National government funding therefore needs to increase with RePowerEU.

Moreover, frontloading private capital expenditures may necessitate even higher levels of public support for investment measures, thus leading to a larger government funding share in investment expenditures. Over the short term, several green technologies will still have a sizable green premium. As consumers are not expected to absorb these additional costs in the amounts needed to meet deployment targets, especially in countries with lower purchasing power, governments will have to step in with subsidies. Support schemes such as Carbon Contracts for Difference also give firms a more predictable outlook with a view to green investment outcomes.

Most of the public funding needed to support these energy investments will be provided by national budgets. Net of the relevant EU funding received,[2] Member States should cover a public green spending gap in the range of 1–2% GDP per year to meet the RePowerEU and EU climate ambitions in 2022–2027 (Figure 1).[3] This does not include investment in new gas infrastructure and expenditures to cushion the impact of high energy prices.

The fiscal impact in highly indebted Member States in Southern Europe will be significant. Greece, Italy, Portugal and Spain, responsible for a quarter of the EU greenhouse gases emissions, are among the top recipients of funding from EU Cohesion Policy and the Recovery and Resilience Facility. They are also currently earning billions of euros from the auctioning of ETS allowances. Nonetheless, we estimate that implementing the RePowerEU and EU climate targets will require them to find fresh resources, through new borrowing and fiscal adjustments, worth around 1% GDP per year by 2027 (Table 1). Notably, these figures do not include direct compensation for high energy costs.

Member States also face new headwinds. In contrast to the situation that prevailed during the Covid-19 pandemic, monetary policy in the EU is now tightening, with the ECB ending its net asset purchases and government borrowing costs increasing across the board, especially in Southern Europe. European economies are also slowing down as energy price inflation, Russian sanctions and the Chinese lockdowns hit the manufacturing sector. Moreover, EU fiscal rules will again apply as of 2023 and, unless they are promptly reformed, make it difficult for several euro-area Member States to finance more green spending through more public borrowing. Altogether, countries with little fiscal space in Southern Europe will find it challenging to deliver on their contribution to the RePowerEU plan within five years, unless there is more EU support.

Table 1: National public green spending gaps in Member States with high public debt, annual average in 2022–2027

Country	Range, % GDP
Belgium	1.1–2.3
Cyprus	1.1–2.7
France	0.8–1.6
Greece	0.6–2.4
Italy	0.5–1.5
Portugal	0.6–1.9
Spain	0.7–1.8

Agora Energiewende (2022). Note: Differences between public spending needs and expected income from ETS auctioning revenues and EU funding in 2022–2027. Ranges provide sensitivity on the assumed leveraging of private capital, from high (lower public funding needs) to low (higher public funding needs).

2 Including NGEU and ETS-funded instruments such as the Innovation Fund but excluding InvestEU.

3 The range refers to different scenarios for the mobilisation of private capital, with low and high fractions of the total investment costs covered by the public sector.

Existing EU funds fall short of climate and RePowerEU ambitions

EU Budget

Only some programmes in the 2021–2027 EU budget intend to finance the large-scale deployment of technologies to phase down the use of gas in the power, buildings and industrial sectors. The most notable are Cohesion Policy (€372 billion), as well as the Connecting Europe Facility (Transport and Energy, €19 billion[4]). However, the latter only allows some investment categories, such as transmission pipelines and cables, but not district heating or most storage technologies. The Cohesion Policy funds are only partially supplemental to the 2014–2020 budget and only a fraction of them can be dedicated to energy investment (the target climate share[5] is 31%).

The rest of the EU budget does not play a significant role in this context. The Horizon Europe programme (€95 billion) targets only research and development activities that, while crucial for the long term, do not help with the large-scale deployment of green technologies over the next few years. Other large programmes like the Neighbourhood, Development and International Cooperation Instrument (€80 billion) are not expected to make a significant contribution to energy investment in the EU. The Common Agricultural Policy programme (€386 billion) does not provide funding to other sectors than agriculture and, even though one of its nine policy objectives is to support climate change mitigation and adaptation, it has so far not funded clean energy investments other than for biogas.

Recovery and Resilience Facility

The RRF was a game changer, both in terms of its scale and priorities, and it is the main source of fresh EU funding for climate action. According to the Commission, the funding allocated to climate expenditures in the 22 already adopted national Recovery and Resilience Plans (RRPs) amounts to €177.4 billion (€203 billion when adding the plans of Bulgaria, Poland and Sweden). While on average this corresponds to 0.25% GDP per year, annual climate expenditures are much higher as a percentage of GDP in the RRPs of top beneficiaries, such as Italy (0.6%), Greece (0.9%), Bulgaria (0.9%) and Romania (0.8%). However, as shown in figure 1 below, this still leaves a sizable financing gap to be filled in these Member States.[6]

Another issue with the RRF is its one-off nature. The end of the RRF in 2026 will leave a large funding gap in several Member States. Accordingly, there are already proposals to make it a permanent facility.[7] Furthermore, the use of these funds tends to be front-loaded, especially in programmes supporting the renovation of private buildings. In Italy and France, for example, RRP funds allocated to support private-building renovation will be used up by the end of 2022.

The RRF loan component has not been completely exhausted so far. Only six Member States have adopted a plan that includes loans (Cyprus, Greece, Italy, Portugal, Romania, Slovenia). Poland has also requested a loan; however, its plan has not yet been adopted. For several Member States, e.g. Germany,

4 The part not included in the Cohesion Policy.

5 https://www.europarl.europa.eu/doceo/document/TA-9-2020-0357_EN.html

6 In Italy, the RRP aims to deliver the renovation of 38.5 million m^2 of private residential floor area, which is 10% of the home renovations needed by 2030 to meet the EU climate targets (author's calculations). For a review of the RRPs, see also Baccianti C. and Holl M. (2022) *Building back greener?*

7 Centre for European Reform (2021) *Why the EU's recovery fund should be permanent.*

Austria, Denmark and the Netherlands, national borrowing is cheaper, making RRF borrowing counterproductive. Yet even when RRF loans are sensible because of lower borrowing costs, governments weigh the benefits against the consequences of being subject to conditionality (i.e. supervision) by the European Commission.

While €212.4 billion of RRF loans are still available,[8] these resources would be exhausted if France and Spain were to request their loan amounts in full. According to the RRF regulation, loans can be requested by Member States up to 31 August 2023. The maximum loan amount that France and Spain can request adds up to €225 billion. Therefore, the availability of loans under the current resource envelope is conditional on France or Spain giving up part of their loan entitlement. Italy, Portugal and Greece could get loans beyond the maximum amount allowed, but subject to the availability of resources, according to Article 14(5) of the RRF regulation.

Finally, RFF loans only partially address the fiscal space issue in Southern Europe, as RRF loans add to the stock of national public debt (while RRF grants do not).[9] The main benefit for Member States in borrowing from the RRF is the more advantageous conditions compared to the market (i.e. lower interest rates). However, the spending financed through RRF loans enters the national budget balance subject to monitored compliance with EU fiscal rules.

Other EU funds

The Innovation Fund, a separate fund that is financed through the auctioning of ETS allowances, only supports innovative projects (with the limited exception of the planned Carbon Contracts for Difference scheme). It does not currently support the large-scale deployment of mature technologies like heat pumps and solar PV. The Modernisation Fund, by contrast, would be well suited to support necessary investments, yet it only finances activities in a few countries.

The Social Climate Fund (SCF) could be an important instrument, if agreed and implemented as part of the Fit for 55 legislative package. The Commission has proposed to endow the SCF with €72 billion in the 2025–2032 period that would be matched 1:1 with national funds. The SCF would address the social impacts of the proposed ETS for buildings and road transport, and it would finance investment to reduce fossil fuel consumption in these two sectors. It is up to Member States to decide how much to allocate to social compensation and to investment. As its purpose is to recycle the auctioning revenues from the new ETS, its fate is strictly linked to the approval of the new ETS.

8 Value in 2018 constant prices.

9 Eurostat (2021) *Guidance note on the statistical recording of the recovery and resilience facility*.

Can't we just optimise the current use of EU funds?

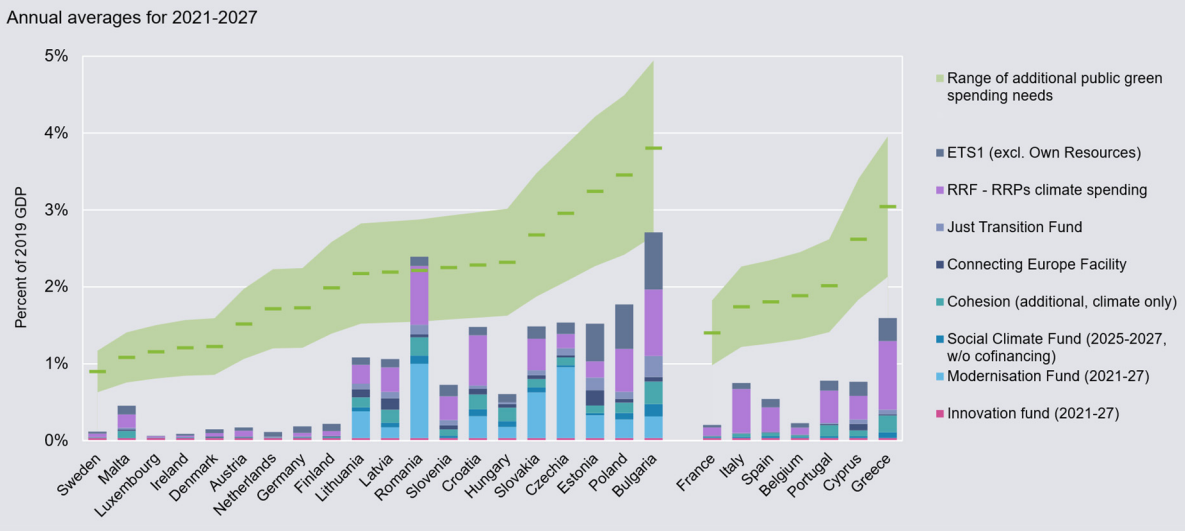
Discussions on how to finance RePowerEU have focused on reallocating funding from *existing EU resources*, without changing total funding levels. For instance, there are proposals to reallocate RRP and MFF funding away from certain policy areas in order to bolster building renovation,[10] or to frontload spending.

However, there are several issues with such an approach:

- A reallocation of funds generally implies cuts in other important areas such as education, health, digitalisation or social cohesion.
- Recovery plans already tend to frontload spending (i.e. in Spain and France), in particular for building renovation.
- In general, as evidenced by Figure 1, even a "reopening" of national RRPs will not generate the billion euros of fresh funds needed to fill the RePowerEU/climate public spending gap before 2027.

RRP spending reviews are welcome and should in some cases help to reflect the changed context due to the war in Ukraine. They could, for example, fix serious inconsistencies in some recovery plans (i.e. removing subsidies to gas-fired boilers in some RRPs). However, spending reviews will not be able to make a substantive contribution to closing the additional public funding gap that arises as a consequence of the increased ambition from RePowerEU. Topping up the current RRPs with fresh funding thus seems to be the best strategy at present.

Figure 1: Public green spending needs, national ETS revenues and EU funding for clean energy, energy efficiency and public transport investment



Agora Energiewende (2022). See Annex 1 for details.

10 See BPIE (2022), *REPowerEU Energy Saving Plan: Time to switch to action*

Increasing the Recovery and Resilience Facility by €100 billion would enable all EU countries to deliver RePowerEU

We propose increasing the RRF financial envelope by **€100 billion** (in 2018 constant prices). Combined with the RRF resources still available, the resulting total of €312 billion[11] could be used to support Member States with low income or little fiscal space in delivering on energy security and climate investments in 2022–2027. Our assessment of the national net financing needs for public climate spending suggests that this amount should be enough. Reducing the national funding needs of Member States with low income or high public debt would require up to €300 billion of additional EU funding over six years, depending on the level of public spending efficiency and EU solidarity.[12]

The additional funds should, in our view, be a mix of grants and loans to Member States. Allocation keys that target countries most in need could keep the size of the grant component small, while loans would be available on request. Our proposal features transfers among Member States through grants, with a redistributive effect that is also present in the RRF and the EU budget. Garicano (2022)[13] has proposed establishing a larger European Climate Investment Facility endowed with €57 billion per year, i.e. €342 billion in 2022–2027. However, the large size would not come with any redistributive effect other than risk-sharing through common borrowing.

A grant component with redistribution is desirable for two main reasons. First, the war in Ukraine and the recent lockdowns in China have rapidly impaired the economic outlook in Europe, with uneven effects across Member States.[14] During the Covid-19 pandemic, the NGEU grants were a response to a common shock in the absence of a central EU fiscal capacity. A similar logic applies now. Grants are more effective than loans in easing the fiscal constraints that some Member States face, especially in Southern Europe. This reduces the risk of ending up with diverging economic trajectories in the EU. Second, the RePowerEU and the climate strategies are common EU ambitions with common benefits, justifying the use of EU funding, even in the form of common borrowing.

The absorption of the new funds will have to overcome existing administrative and supply-side bottlenecks at the national level. It is therefore important to wisely distribute the use of funds up to the end of 2027, prioritising the extension and enlargement of already established programmes, i.e. tax incentives for private building renovations and renewable heating installation.

11 The approx. €5 billion in grants that were not requested by the Netherlands are not included here.

12 The estimated amount covers: 1) 20% of the national public green spending gap in excess to the EU average, for low income and high public debt Member States, and 2) the national public green spending gap in excess of 0.6% of GDP, only for Member States with high public debt, proportionally to their debt level. The €300 billion estimate refers to a worst-case scenario in which high shares of public funding are needed to mobilise private capital.

13 https://voxeu.org/article/combining-environmental-and-fiscal-sustainability

14 Redeker, N. (2022), *Same shock, different effects: EU Member States' exposure to the economic consequences of Putin's war. IMF (2022), Regional Economic Outlook for Europe, April 2022.*

The Recovery and Resilience Facility seems best suited as a vehicle for additional funding

Which EU funding instrument should host the additional funding? The RRF is already operational, and several national investment programmes financed under the recovery and resilience plans have already deployed capital. The Commission recently published a report on the first year of RRF activity and a review on the fulfilment of national targets and milestones is due in mid-2022.

It does not seem inappropriate to reconsider the size of the RRF envelopes in light of the new green spending needs. The RRF was originally designed to primarily address the economic impacts of the Covid-19 pandemic, not to close the green investment gap. In May 2020, the European Commission estimated the EU-wide green investment gap in 2021–2030 at €470 billion/year[15]; political agreement on the RRF led to grants covering less than 4% of this amount.

Moreover, using public debt to frontload green investment under RePowerEU can be justified by the fact that this decade is crucial for establishing markets for key technologies such as heat pumps and electric vehicles, for boosting green innovation, and for placing the EU on a credible pathway to climate neutrality by 2050 at the latest.

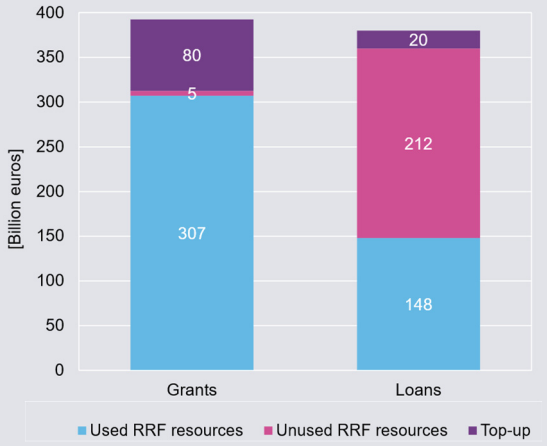
We propose increasing the RRF as follows (see Figure 2):

- **€80 billion in grants**, to be allocated across Member States with a new methodology that reflects their dependency on imported gas and climate spending needs.
- **€20 billion in loans**, which will be most helpful to governments with high borrowing costs.

National planning of the additional funds should be undertaken together with a review of existing spending plans, introducing a **new flagship "RePowerEU"**. The top-up could be applied following the revision of the maximum allowed contributions (grants), as planned for the end of June 2022.

In our view, Member States should submit a revision of their plan, describing the use of the requested top-up and how they would intend to repurpose existing spending under the new flagship. The funds should be spent before the end of 2027. This time, the European Commission should be stricter in judging the cost-effectiveness of proposed national policies. To take one example, the Italian Superbonus 110% should be reformed to reduce the government contribution to investment costs and make the scheme more fiscally sustainable.

Figure 2: Proposed €100 billion RRF top-up



Agora Energiewende (2022). Note: all values in 2018 constant prices. The unused grants are the maximum financial contribution for the Netherlands.

15 https://ec.europa.eu/info/sites/default/files/economy-finance/assessment_of_economic_and_investment_needs.pdf

The advantage of this option compared to an enlarged and frontloaded SCF is that the recovery plans have a broader scope and allow for investment in buildings, industry and the power sector. Moreover, the RRF focuses on capital expenditures, while the SCF leaves the issue of how much to spend on energy cost compensation and how much to spend on actual green investment to the discretion of Member States. The additional EU funding for RePowerEU should target the latter, while the SCF can be used to address the social impacts of carbon pricing.

Figure 3 illustrates how the new grants could help to close the climate spending gaps in each Member State. We use here an allocation key that considers gas dependency and carbon intensity (see Annex 2 for details). The remaining gap could be further reduced by using the loan component of the RRF. Moreover, the national expenditures not covered by EU grants should be exempted from the European fiscal rules, in order to prevent the need for further fiscal consolidation in Member States with high public debt levels.[16]

How can the EU finance the additional spending?

The proposed RRF top-up increases the amount of debt the European Union will have to issue. There is high demand for more European safe assets in the form of EU common bonds, such as the ones issued for the Next Generation EU (NGEU). Nevertheless, the issue of repaying the additional EU debt should be addressed by identifying revenue sources that can sufficiently meet future payment obligations.

The current repayment needs of the NGEU debt, including the debt issued to finance the RRF, depend on the effective amount borrowed up to 2027 and the amortisation strategy for the 2028–2058 repayment period. Assuming linear debt amortisation, around €15 billion per year will be required starting from year 2028.[17] According to the European Commission, the first set of new Own Resources barely provide this amount. These revenue sources include the existing ETS and the proposed emission trading scheme for buildings and road transport. In the Commission's proposal, 25 percent of the revenues that national governments will earn from auctioning ETS allowances should contribute to the EU budget. These resources should also finance the SCF.

Our proposal increases the resources needed for (grant-related) debt repayment by €2.9 billion per year in 2028–2058. These financing needs can be covered by carbon pricing revenues in combination with an increase in GNI-based own resources.

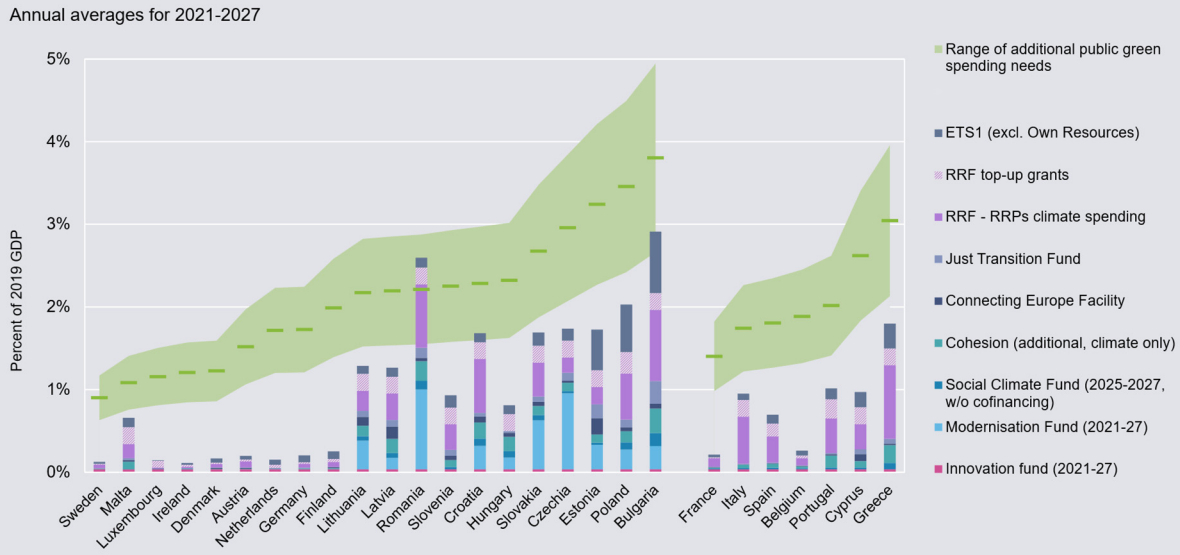
The existing ETS has provided Member States with €31 billion of direct auctioning revenues in 2021. Going forward, however, revenues from the existing ETS will tend to decline because of rapidly falling emissions in the power and industrial sectors covered by the scheme and the presence of a substantial amount of free allowances that squeeze the auctioned component under the declining cap. Phasing out free allowances more rapidly would unlock additional revenues in the future.

The proposed new ETS for buildings and road transport, in contrast, could generate €180 billion in auctioning revenues between 2026 and 2030 (€36 billion per year) if prices were to start at €30/tCO_2 and gradually increase to €50/tCO_2 in 2030. This is a conservative price assumption and there is an upside potential for the amount estimated here. A price floor would ensure a more stable revenue stream for governments.

16 On the green golden rule, see Darvas, Z. and Wolff, G. (2021), *A green fiscal pact: climate investment in times of budget consolidation,* and van den Noord, P. (2022), *Reconciling fiscal and environmental sustainability in the Eurozone*.

17 See also Schratzenstaller, M. et al. (2022), *New EU own resources: possibilities and limitations of steering effects and sectoral policy co-benefits.*

Figure 3: RRF grants top-up, national spending needs and existing EU funds for clean energy, energy efficiency and public transport investment



Agora Energiewende (2022). See Annex 1 and 2 for details.

To cover the additional RRF borrowing we recommend implementing the new ETS as well as increasing the Own Resources contribution of carbon markets from the 25% share proposed by the European Commission to 30%. This should be sufficient to cover the higher repayment needs, backed up by future GNI-based contributions.

Clearly, Russia's war of aggression against Ukraine makes it necessary to revisit political decisions concerning expanded carbon pricing and the use of future carbon revenues. However, while additional EU debt is needed over the short-term to support the delivery of RePowerEU, repayment of the additional debt from carbon revenues will only happen from 2028 onwards, when Russia's war of aggression against Ukraine will hopefully be long over. To cover the additional RRF borrowing, we thus recommend implementing the new ETS as well as increasing the Own Resources contribution of carbon markets from the 25% share proposed by the European Commission to 30%. This should be sufficient to cover the higher repayment needs, backed up by future GNI-based contributions.

Annex 1 – Methodological note to Figures 1 and 3

Public green spending needs

In the absence of available estimates concerning the national public spending needs for reaching EU climate and RePowerEU targets, such estimates are approximated by making the public green spending needs (as a percent of GDP) an increasing function of the carbon intensity of GDP and a decreasing function of GNI per capita. This function is calibrated using estimates of public green spending needs for the EU (Agora Energiewende's analysis[18]) and selected Member States (available studies). The sensitivity shown in Figures 1 and 3 refers to our two scenarios on the mobilisation of private capital (high and low public shares of investment costs), built from a bottom-up sectoral analysis of the EU.

EU funds

Just Transition Fund: official national allocations (100% climate share).

Cohesion Policy: difference between the minimum climate mainstreaming (31%) of country allocations in 2021–2027 and the corresponding amounts in the previous 2014–2020 budget (20% climate mainstreaming).

Connecting Europe Facility: covers only certain eligible action in the Transport and Energy sectors and the funding not already included in the Cohesion area to avoid double counting. Assumes a 60% climate share. Allocations across countries are based on the historical allocations (2014–2019) shown here.

RRF/RRPs: all amounts are from the Commission's analysis of national plans. They refer to the spending on climate objectives measured with the climate tagging methodology (the adapted Rio Markers).

Modernisation Fund: Agora Energiewende's estimate of the fund resources in 2021–2027, with an average EUA price of €80/tCO_2, allocated to Member States using the official allocation keys.

Innovation Fund: Agora Energiewende's estimate of the fund resources in 2021–2027, with average EUA price of €80/tCO_2, according to the Commission's proposal of July 2021 (Fit for 55 package). Funds are allocated to Member States based on their share of the EU GDP.

Social Climate Fund: we assume high frontloading, so that that 50% of the total financial envelope for 2025–2032 is spent over the period 2025–2027. Country allocations follow the Commission proposal. We also assume that only 60% is spent on green investment, with the remainder spent on social support. National co-financing is not shown in the charts.

Carbon market revenues

ETS revenues: figures show the ETS revenues available to national governments for supporting green investment. The national annual auctioning revenues in 2021–2027 are assumed to equal the revenues for each country in 2021, as reported by the Italian GSE.[19] The contribution (25%) to EU Own Resources is limited to the period 2023–2027. Of the remaining revenues, it is assumed that 33% is recycled for energy costs compensation and therefore not for directly supporting green investment.

18 See Agora Energiewende (2022), *'Regaining Energy Sovereignty: 15 Priority Actions for RePowerEU'* and Agora Energiewende (2022), *'How to align the EU fiscal framework with the Green Deal'*.

19 https://www.gse.it/documenti_site/Documenti%20GSE'/Rapporti%20ASTE%20CO2/240322_Rapp_GSE_Aste_Annuale_2021-v3.pdf

Annex 2 – Proposed methodology for the calculation of the maximum RRF financial contribution per Member State

The distribution of the new RRF grants among Member States displayed in Figure 3 is based on the following methodology. The method borrows from the one used for the original RRF maximum financial contributions, but replaces the unemployment and GDP indicators with the following (weights in parentheses):

RePowerEU component (75%)

- Natural gas consumption per unit of GDP PPS (60%),
- Share of country in EU import of Russian gas (40%),

Climate component (25%)

- Carbon intensity of GDP PPS (50%),
- Share of country in EU CO_2 emissions (25%),
- Share of road transport in freight transport (25%).

The indicators *people at risk of poverty or social exclusion* and *GNI per capita* are also used as adjustment factors. All underlying data series are from Eurostat.

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