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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the implementation of the Recovery and Resilience Facility

Contents

Tables and Figures

1. Introduction

The Recovery and Resilience Facility, established by Regulation (EU) 2021/241 on 19 February 2021, is the centrepiece of "Next Generation EU", the EU response to emerge stronger from the coronavirus pandemic. A year after, the objective of this report is to take stock of the implementation of this extraordinary agenda of reforms and investments. In one year, major steps have been accomplished and implementation is firmly underway.

Following months of intense preparation due to their unprecedented scale and scope, Member States started to submit their recovery and resilience plans in April 2021. The Commission conducted the assessment phase expediently and the Council adopted the first Council implementing decisions in July 2021. So far, almost all Member States have submitted their recovery and resilience plans, 22 of which have been first positively assessed by the Commission and subsequently adopted by the Council. The Commission also launched the discussions with Member States to agree on operational arrangements, which set the framework for monitoring the plans' implementation. The Commission raised funds on the capital markets and issued its first green bonds, disbursing EUR 66.6 billion to date, out of which EUR 56.6 billion in pre-financing, supporting Member States and the Union at a time when the coronavirus pandemic continues to affect their economies.

The Facility has entered in the implementation phase, progressing quickly according to the timeline of reforms and investments set by the Member States. The first payment request was fully processed in 2021, with the disbursement of EUR 10 billion to Spain in December 2021, while more than 30 payment requests are expected to be submitted in 2022. The calendar of payments is in line with the expected implementation phase of the Facility. The Commission and Member States worked closely together to achieve this result. The progress in the implementation of the plans can be followed live on a platform, the 'Recovery and Resilience Scoreboard', set up by the Commission in December 2021.

This report is the first of a series of yearly reports on the implementation of the Facility[1]. It provides an overview of the current state of its implementation and of the plans adopted, and details the contribution of the Facility to the climate and digital targets, as required by Article 31 of the Regulation. At this juncture, as the Facility is still in its early stage of implementation, this report describes the Facility's expected contribution to the six pillars according to the measures foreseen in the plans, which will be gradually implemented over the Facility's lifetime. The report then considers the performance of the Facility, taking into account the commitment to investments and reforms embedded in this unique instrument, and discusses the involvement of all relevant stakeholders. It also describes the mechanisms in place for the protection of the Union's financial interests and the articulation between the Facility and other sources of EU funds to avoid double-funding. The information provided in this report is based on the content of the adopted plans, as assessed by the Commission, on the data reported by Member States until end-November 2021 as part of their bi-annual reporting obligation, and on developments in the implementation of the Facility until end-January 2022.

[1] As required under Article 31 of the RRF Regulation.

This report does not cover extensively the status of implementation of individual plans, nor the common indicators, given the still early stage in the implementation of the Facility. The examples given, notably the boxes in section 3, are included as an illustration but are not meant to be exhaustive.

2. Where do we stand with the implementation of the Facility?

2.1. State of play on the process of implementation[2]

Adoption of the recovery and resilience plans

The majority of Member States submitted their recovery and resilience plans (RRPs) by summer 2021. To support Member States in the preparation of their plans, the Commission established informal contacts with Member States from October 2020 and published a Guidance[3] in January 2021 on the information to be provided in the plans. In order to access financial support under the Facility, Member States had to prepare RRPs setting out a national agenda of reforms and investments to be implemented by 31 August 2026. The Regulation establishing the Recovery and Resilience Facility[4] entered into force on 19 February 2021. So far, the Commission has officially received 26 RRPs (see Table 1 and Annex 1).

The Commission assessed each plan expediently in a consistent and transparent manner, following the 11 criteria set out in Article 19(3) of the RRF Regulation[5]. During the assessment process, the Commission was in close contact with the Member States to conduct a comprehensive assessment. The Commission supported Member States to put forward ambitious plans with clear and realistic milestones and targets to monitor their progress during the implementation.

The Commission has concluded its positive assessment of 22 RRPs and tabled proposals for a Council Implementing Decision for each of them, accompanied by a Staff Working Document analysing the content of the respective plan. The Council Implementing Decisions and Commission Staff Working Documents can be found on the Commission website[6]. The Commission's assessment is ongoing for four plans, in cooperation with the respective Member States (Bulgaria, Hungary, Poland and Sweden), as provided for in Article 19(1) of the RRF Regulation.

Overall, the adoption of the 22 Council Implementing Decisions followed a swift and smooth process. Following intense discussions between the Commission and the Member States during the preparation phase of the plans, the Commission proceeded swiftly with its assessment. For most plans, the Commission adopted its positive assessment in less than the 2 months assessment period provided for in Article 19(1) of the Regulation following their official submission (see Table 1). The Council was then also able to approve the positive assessment of most RRPs within less than a month (see Table 1). Following the adoption of the plans, the Commission concluded a financing agreement – and where relevant, a loan agreement – with the Member State concerned, which define the rights and obligations of the Parties, including with regards to the protection of the financial interests of the Union and the

[2] For the purpose of this report, all data and figures are presented with a cut-off date of 28 February 2022.
[3] SWD(2021) 12 final
[4] Regulation (EU) 2021/241 of 12 February 2021.
[5] https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html.
[6] Recovery and Resilience Facility | European Commission (europa.eu).

requirements for Member States' control system, as well as the commitment of the available amount of the financial contribution.

Table 1: State of play on RRF implementation

	BE	CY	DE	DK	EL	ES	FR	IT	LU	LT	LV	PT	SI	CZ	HR	AT	IE	SK	MT	RO	FI	EE	PL	HU	SE	BG	NL
26 plans submitted to the Commission																											
22 plans approved by the Commission																											
22 CID adopted by the Council																											
21 pre-financing disbursed (EUR 56.6 bn)																	*[7]										
5 payment requests submitted to the Commission																											
1 payment made by the Commission						**10 bn**																					

Pre-financing

The Commission proceeded with a pre-financing payment of up to 13% of the financial contribution and loan to 21 Member States which requested it, following the signature of the financing agreement, and loan agreement when relevant. In accordance with Article 13(1), the pre-financing payment only concerns Member States which RRPs were endorsed by the Council in 2021.

In total, the Commission disbursed EUR 56.6 billion in pre-financing. Payments of the pre-financing were executed within 6 business days after the signing of the Financing (and/or Loan) Agreements (where relevant), well ahead of the 2-month period mentioned in the RRF Regulation (see Table 1). Given that the RRF is a performance-based instrument, any subsequent disbursement is conditional on fulfilling the relevant milestones and targets underpinning the reforms and investments set by the time of the payment request.

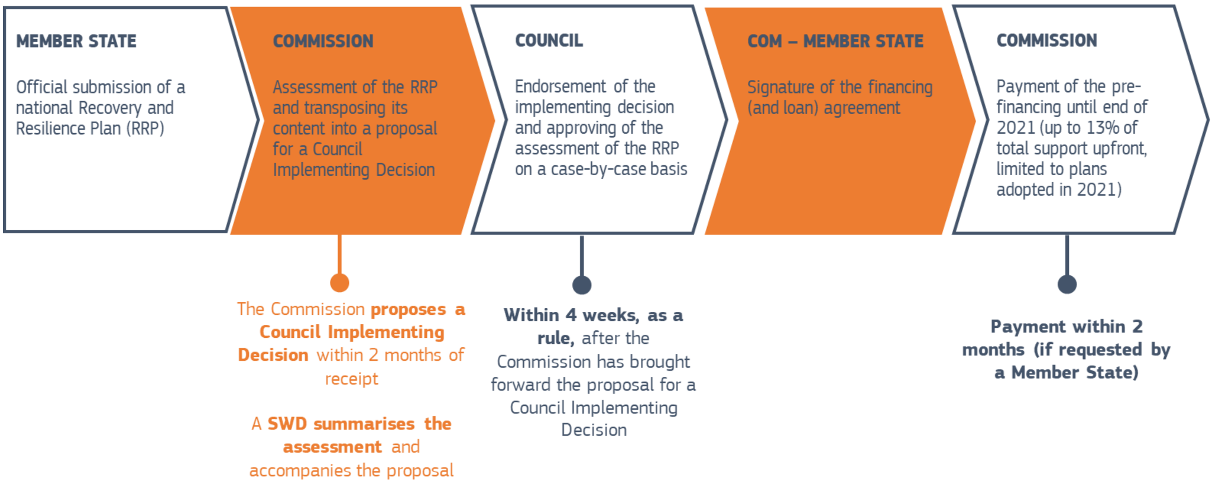
Operational arrangements

As required under the RRF Regulation, the Commission subsequently discussed, with each of the 22 Member States concerned, operational arrangements further specifying the modalities for monitoring and cooperation and covering essential aspects of the implementation. The operational arrangements provide for regular exchanges between the

[7] No pre-financing requested.

Commission and Member States, with at least quarterly exchanges to take stock of progress on the implementation of the RRP, as well as the organisation of an annual event to discuss the implementation of the RRP and other Union programmes, which may serve as an horizontal platform to discuss the plans' implementation and ensure close cooperation between all actors involved. The operational arrangements also clarify the verification mechanism for each milestone and target, and when necessary, introduce monitoring steps to follow the implementation of the plan. To date, eight operational arrangements have been concluded (Spain, France, Slovakia, Greece, Italy, Portugal, Croatia, Latvia; see Annex 1). The signing of operational arrangements is a key step, as it is required before the Member State may submit its first payment request.

Figure 1: Key steps in RRP assessment and pre-financing



Disbursement process

Once a Member State has fulfilled all the relevant milestones and targets to unlock a disbursement, as detailed in the respective Council Implementing Decision, and submits a duly justified payment request, the Commission has 2 months for assessing the satisfactory fulfilment of the relevant milestones and targets and the information underpinning their achievement submitted by the respective Member State. To conclude this assessment, the Commission provides its positive preliminary assessment to the Economic and Financial Committee. Within four weeks the Economic and Financial Committee should provide an opinion on these findings, after which the Commission implementing decision that authorises the disbursement is adopted in accordance with the examination procedure described in the Comitology Regulation. For this purpose, a RRF Committee was established, as provided under Article 35 of the RRF Regulation, to discuss the draft Commission implementing decisions concerning the payment requests of the Member States[8]. The RRF Committee is composed of representatives of all Member States. At the end of the comitology procedure, the Commission adopts a Commission implementing decision taking into account the views expressed by the Members.

[8] Pursuant to Article 35 of the RRF Regulation, this comitology committee is set up within the meaning of Regulation (EU) No 182/2011.

Payment requests

To date, the Commission has received five payment requests. The table below provides the state of play.

Table 2: Processing of payment requests

	Payment request date	Number of milestones & targets (M&T)	Amount net of pre-financing[9]	Status
Spain	11/11/21	52 M&T	EUR 10 bn	• Commission's preliminary positive assessment: 03/12/2021 • EFC positive opinion: 21/12/2021 • RRF Committee positive opinion: 22/12/2021 • Commission's disbursement: 27/12/2021
France	26/11/21	38 M&T	EUR 7.4 bn	• Commission's preliminary positive assessment: 26/01/2022 • EFC positive opinion: 11/02/2022 • RRF Committee positive opinion: 21/02/2022
Greece	29/12/21	15 M&T	EUR 3.6 bn	• Commission's preliminary positive assessment: 28/02/2022
Italy	30/12/21	51 M&T	EUR 21 bn	• Commission's preliminary positive assessment: 28/02/2022
Portugal	25/01/22	38 M&T	EUR 1.16 bn	Commission's assessment ongoing

To date, the Commission has disbursed a first payment to Spain. Spain was the first Member State to submit a payment request on 11 November 2021, following the signing of the operational arrangements. Spain's first payment request concerns the satisfactory fulfilment of 52 milestones, mainly relating to reforms that were already implemented by the second quarter of 2021. Given the backward-looking nature of most milestones and given that Spain had shared with the Commission most of the information required to conduct its assessment before the official submission of the payment request, the Commission was able to process the assessment of the payment request expeditiously[10] and disbursed EUR 10 billion of the financial contribution (net of pre-financing) to Spain on 27 December 2021.

Acknowledging the fulfilment of the milestones and targets underpinning the respective RRP measures, the first payment to Spain already illustrates the progress made in the implementation of the RRF. The milestones included in the payment demonstrate significant steps in the implementation of Spain's recovery and resilience plan, and of its broad reform agenda. They include important measures like the Law on Climate Change and Energy

[9] The amount net of pre-financing takes into account the pre-financing amounts disbursed, with a reduction made pro-rata.

[10] The Commission adopted a positive preliminary assessment on 3 December 2021. Following the swift positive opinion of the Economic and Financial Committee (EFC) on 21 December and of the RRF Committee on 22 December, the Commission was able to execute the payment on 27 December 2021.

Transition (enshrining climate neutrality by 2050), the reform of minimum income support, measures to support the digitalisation of SMEs and boost digital skills, and reforms reinforcing the capacity to carry out and follow up on spending reviews. This example shows how the Facility is already having tangible impacts on the ground, supporting the implementation of significant reforms.

The framework for Member States reporting on the implementation of the RRPs

The RRF has currently entered in the implementation phase and Member States have started to report on the implementation of their RRP. The Delegated Acts supplementing some of the Member States' reporting requirements entered into force on 2 December 2021. The first delegated act (EU) 2021/2106[11] sets out common reporting indicators and the details of the Recovery and Resilience Scoreboard. It specifies that Member States will report by April and mid-October each year on the progress made in the achievement of their recovery and resilience plans. This bi-annual reporting consists in providing summary information on the achievement of the milestones and targets due by the quarter preceding the reporting, as well as the status of those due in the four quarters following the reporting period. Member States are expected to provide information on whether the relevant milestones and targets are completed, on track or delayed. Member States also have to report on the defined common indicators twice a year (by February and August). The first reporting will take place in February 2022. The second delegated act 2021/2105[12] lays down the methodology for reporting on social expenditure in Member States' recovery and resilience plans. This delegated act is important to define a common methodology to provide information on the social expenditure, including on children and the youth, and on gender equality financed by the Facility. The methodology is based on the estimated expenditure provided in the approved recovery and resilience plans. Each reform and investment with a primary social dimension is associated to one of the nine specific social policy areas[13] defined in the delegated act, each linked to four broader social categories (employment and skills, education and childcare, health and long-term care or social policies). Each measure of a social nature that includes a focus on children and the youth, or on gender equality, is also specifically flagged.

The Commission set up an IT system, named FENIX, for Member States to report the relevant information on the implementation of the plans. As part of the bi-annual reporting[14], Member States reported the required information in FENIX for the first time by

[11] Commission Delegated Regulation (EU) 2021/2106 of 28 September 2021 on supplementing Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility by setting out the common indicators and the detailed elements of the recovery and resilience scoreboard, OJ L 429/83.

[12] Commission Delegated Regulation (EU) 2021/2105 of 28 September 2021 on supplementing Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility by defining a methodology for reporting social expenditure, OJ L 429/79

[13] (i) Adult learning, (ii) Employment support and job creation, (iii) Modernisation of labour market institutions, (iv) Early childhood education and care, (v) General, vocational and higher education, (vi) Healthcare, (vii) Long-term care, (viii) Social housing and other social infrastructure, (ix) Social protection.

[14] Under Article 27 of Regulation (EU) 2021/241 establishing the Recovery and Resilience Facility, on the Reporting by Member State in the context of the European Semester, Member States are required to report twice a year on the progress made in the achievement of their recovery and resilience plan.

end-November 2021 (as this was the first bi-annual reporting exercise for Member States, the deadline was exceptionally extended by a month). This system allows Member States to update the information regarding the achievement of milestones and targets at any moment and to avoid providing several times similar information for the purpose of the bi-annual reporting or the submission of a payment request. Reporting under the RRF is now fully operational.

The review of the bi-annual reporting information already reveals a positive picture regarding the implementation of the milestones and targets. This reporting exercise concerned all milestones and targets which were due from Q1 2020 to Q3 2022. Overall, of the backward-looking milestones and targets due by Q3 2021 (most recent reporting quarter), 91% (266) were reported as “completed” and 9% (25) were reported as not completed. Of the forward-looking milestones and targets due between Q4 2021 and Q3 2022, 4.4% (41) were reported as delayed, 79.7% (741) as “on track” and 14.9% (139) were reported as already completed. The next bi-annual reporting exercise will take place in April 2022. Data related to the bi-annual reporting is self-reported by Member States and does not prejudge the assessment of the Commission in the context of payment requests on the satisfactory fulfilment of milestones and targets.

The Commission set up the Recovery and Resilience Scoreboard[15], a public online platform, as a performance reporting tool of the Facility, which transparently displays available information on the implementation of the RRF. Every citizen can follow the progress on the implementation of the RRF and the detailed progress for each RRP on the Commission website in an easily accessible way. The Scoreboard displays the impact of the Facility in the six policy pillars. It also includes data on the common indicators and information reported on social expenditure. A first version of the Scoreboard was published on 15 December 2021, containing data on the 22 RRPs endorsed by the Council to that date.

2.2. State of play on the financing of the Facility

State of play on the Next Generation EU funding

The Commission’s new role as an active issuer[16] on the capital market is a key milestone for the implementation of the RRF. The Own Resources Decision entered into force on 1 June 2021 enabling the Commission to start borrowing for the Next Generation EU (NGEU) temporary recovery instrument (the first transaction took place in June 2021). The Commission has been empowered to borrow up to EUR 806.9 billion in the period 2021-2026 (current prices). This amount entails annual bond issuance of, on average, up to roughly EUR 150 billion per year between mid-2021 and 2026, making the EU one of the largest issuers of bonds denominated in euro. Up to EUR 250 billion of the stated amount will be issued in the form of green bonds (see below).

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[15] Recovery and Resilience Scoreboard (europa.eu).
[16] To pour into a Union spending programme.

So far, the Commission has raised EUR 78.5 billion in long-term funding through bonds and EUR 33 billion in short-term funding through 3-months and 6-months EU-Bills (of which EUR 12 billion have already matured). Based on the EU's high credit rating, the Commission is able to borrow on advantageous conditions and hence minimise the cost of recovery fund related debt. The NGEU funding volumes have been well absorbed and demand for the new issuances has been strong.

The Commission has been able to fund all planned payments/incoming requests, and in a very expedient manner. To date, EUR 66.6 billion have been disbursed to 21 Member States under the RRF. Payments of the pre-financing were executed within few days after the signature of the relevant Financing and/or Loan Agreements, well ahead of the periods foreseen in the RRF Regulation. The first payment to Spain was also executed swiftly (3 business days following the positive opinion of the RRF Committee).

Green bond framework

The Commission put together a comprehensive state-of-the-art green bond framework for its issuances under Next Generation EU and plans to issue up to 30% of NGEU funding as green bonds, confirming the EU commitment to sustainable finance. The framework is oriented along market standards and provides credible green bonds to investors. All measures included in the recovery and resilience plans have to respect the do-no-significant-harm (DNSH) principle for other environmental objectives. To achieve such a result, the Member States agreed in the financing and loan agreements signed as part of the RRF implementation to undertake regular reporting of their expenditures on investments contributing to climate change objectives. The Commission raised EUR 14.5 billion through its first ever green bond issuance that took place on 12 October 2021.

3. What do the Recovery and Resilience Plans actually contain?

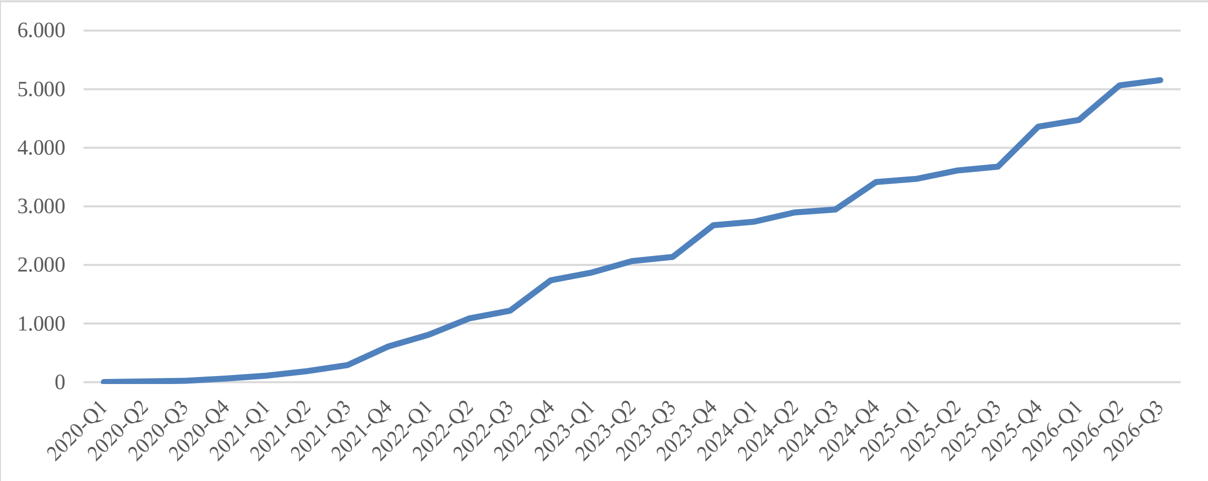
3.1. RRPs submitted - introductory overview

General overview

To date, the 22 RRPs approved by the Council account for a total allocation of EUR 291 billion in non-repayable financing and EUR 154 billion in loans. Six Member States have an adopted plan including a loan (Cyprus, Greece, Italy, Portugal, Romania, Slovenia).

These 22 RRPs include around one third of reforms and two thirds of investments, and a total of 5155 milestones and targets to be fulfilled by 2026.

Figure 2: Estimated timeline for completion of milestones and targets



Contribution to the six pillars: methodological introduction

Pursuant to Article 3 of the RRF Regulation, reforms and investments included in the RRPs should contribute to the six policy pillars[17] defining the scope of the Facility, while taking into account the specific situation and challenges of the relevant Member State.

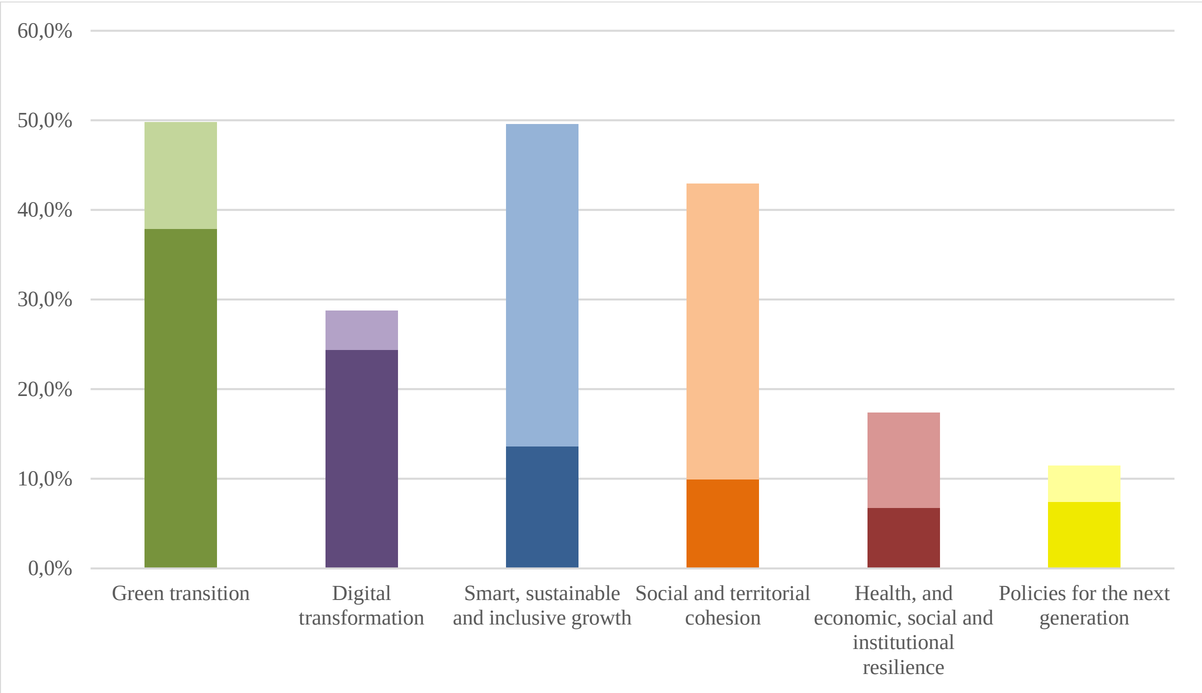
The Commission developed a methodology to report on the contribution of each plan to the Facility's six pillars, where each (sub-) measure was tagged under one primary and one secondary policy area (according to a list of policy areas established by the Commission[18]) which are associated to one of the six pillars, reflecting that a reform or investment can be related to several pillars. To the extent possible, and as described below, the pillar reporting is consistent with other tagging exercises (climate, digital, social expenditure). Since each

[17] The six pillars are: (i) green transition, (ii) digital transformation, (iii) smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong small and medium enterprises (SMEs), (iv) social and territorial cohesion, (v) health, and economic, social and institutional resilience with the aim of, inter alia, increasing crisis preparedness and crisis response capacity, and (vi) policies for the next generation, children and the youth, such as education and skills.

[18] For more information, see the RRF Scoreboard available at: https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html.

measure thus contributes towards two of the six policy pillars, the total estimated contribution to all pillars displayed on Figure 2 amounts to 200% of the RRF funds allocated to Member States.

Figure 3: Share of RRF funds contributing to each policy pillar



Legend: The darker-coloured parts of the columns represent those measures which have been tagged and assigned to the pillar as primary policy area, while the lighter-coloured parts represent measures tagged as secondary policy area.

Moreover, the Commission has adopted a methodology to report on social expenditure in the Delegated Regulation 2021/2105 (see section 1). Reforms and investments with a social dimension have been associated to one of nine social policy areas, each linked to one of four social categories (namely, employment and skills, education and childcare, health and long-term care, and social policies) as set out in the Annex to the Delegated Regulation. This is complemented by the flagging of measures with a focus on children and youth or on gender equality in the endorsed plans. However, in order to maintain consistency across all policy areas supported by RRPs (beyond the social ones), this report presents measures and expenditures according to the pillar methodology.

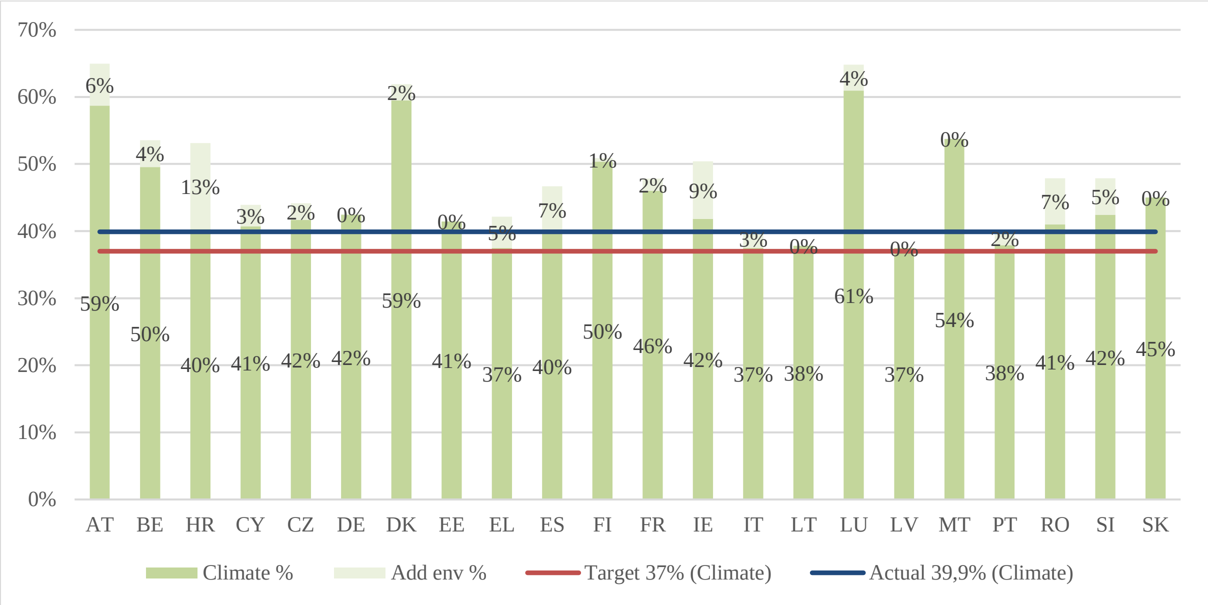
The RRF Regulation also required each Member State to dedicate at least 37% of its recovery and resilience plan's total allocation to measures contributing to climate objectives and at least 20% of the total allocation to digital objectives. The RRPs specified and justified to what extent each measure contributes fully (100%), partly (40%) or has no impact (0%) on the climate and/or digital objectives. The contributions to climate and digital objectives have been calculated using Annexes VI (climate tracking) and VII (digital tagging) of the RRF Regulation, respectively, which provide a relevant 'intervention field' together with a coefficient for the calculation of support to climate or digital objectives (0%, 40% or 100%). Each measure of the RRPs has been tagged in line with these intervention fields. Combining the coefficients with the cost estimates of each measure allows calculating to what degree the plans contribute to the climate and digital targets.

3.2. Contribution of the Facility to the green transition (pillar 1)

Climate target

About 40% of the total plans' allocation is related to measures supporting climate objectives and a number of RRPs exceed by a substantial margin the 37% climate target set in the Regulation (see Figure 4). The total climate expenditure in the 22 adopted plans amounts to EUR 177.4 billion. In addition, the plans include EUR 16.3 billion of additional environmental expenditure[19], taking the total amount of expenditure that is tagged as making a contribution to either climate or environmental objectives to EUR 193.7 billion[20] (or 43,5% of the total allocation), as calculated according to the climate tracking methodology.

Figure 4: Climate and additional environmental tag by Member State



Overall expenditure towards the green transition in all RRPs

The RRF will help achieve the EU's targets to reduce net greenhouse gas emissions by at least 55% by 2030 and to reach climate neutrality by 2050. Along with contributing to deliver on the climate ambition, the measures supported by the RRF will also ensure progress towards other environmental objectives such as reducing air pollution, promoting the circular economy or restoring and protecting biodiversity, promoting energy efficiency and higher deployment of renewable energy sources. According to the pillar reporting methodology, a

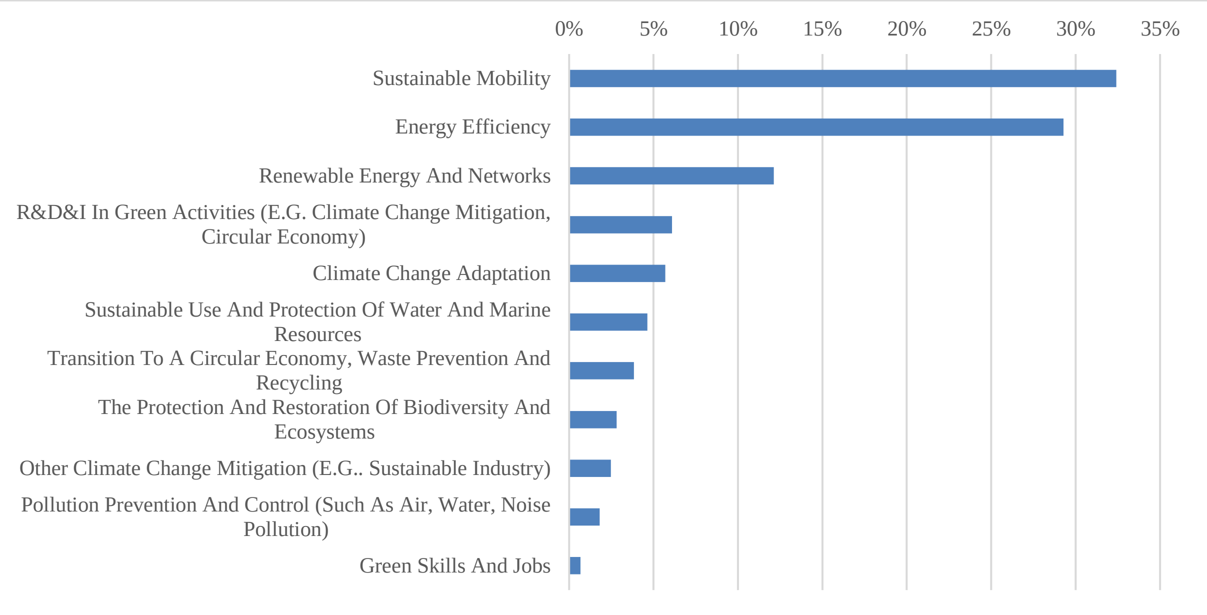
[19] This includes investments which have a 40 or 100% environmental tracker under Annex VI of the RRF Regulation, and which are not already included in the climate contribution.

[20] This amount is lower than the overall expenditure allocated to the "Green transition" pillar because the latter includes all the costs associated with the investment, and not just the tagged expenditure (for example, an investment that has a 40% climate coefficient, would typically be included with 100% of its costs under the green transition pillar).

total of EUR 224.1 billion of expenditure is estimated to be allocated to the green transition pillar (equivalent to 50% of the total expenditure in the 22 plans).

Through the lens of the six-pillar approach, the overall amount of expenditure under the green pillar can be broken down in 11 policy areas, as shown in Figure 5 below. Overall, the measures included in the RRPs address a wide of array of areas, from e.g., sustainable mobility, energy efficiency, renewable energy and networks, to biodiversity, circular economy, green skills and jobs, and climate change adaptation.

Figure 5: Breakdown of expenditure supporting the green transition (pillar 1)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the green transition pillar.

Sustainable mobility

Sustainable mobility accounts for 32% of the total expenditures under the green transition pillar (total cost of EUR 71.3 billion). Large investments are made to upgrade and extend the railway infrastructure, in particular on the Trans-European network (TEN-T), and for the purchase of modern rail rolling stock. They constitute a crucial vector for a modal shift towards an environment-friendly mode of transport and support both passenger and freight transport. A more limited number of measures in favour of the greening of the waterborne and aviation sectors are also present, with investments for the greening of ports, for instance the installation of on-shore power supply, and of airports, with the electrification of ground handling systems.

Italy's RRP includes 3,400km of the European Rail Traffic Management System (ERTMS) deployment. The deployment of ERTMS will allow for seamless cross-border rail freight and passenger operations. ERTMS investments contribute to both the green and digital transitions.

Significant investments also aim at improving the sustainability of road transport, including through support to the deployment of alternative fuel infrastructure and

vehicles and to the development of green public transport. Some of these investments are centred on helping consumers purchase zero emission vehicles, through financial incentives to help with the high upfront costs of purchasing electric vehicles.

Germany's recovery and resilience plan will help citizens shift to clean electric vehicles by giving financial support to buy 560,000 decarbonised vehicles. The measure will reduce the purchase prices of electric vehicles and stimulate the market. It is complemented by other measures, such as financing the installation of 50,000 publicly accessible recharging points and of 400,000 further recharging points in residential buildings.

Transport sector reforms are an important part of most RRPs. They tackle the overall regulatory framework and include strategies to support sustainable urban mobility and collective transport as well as measures supporting the roll out of charging infrastructure or the procurement of clean vehicles. The plans also include reforms introducing competition in port services and reform the maritime sector and inland waterways.

Romania's RRP includes key regulatory changes to incentivise zero-emission road transport, incentives for zero-emission and low-emission vehicles, scrapping schemes to replace the most polluting vehicles, improvements to the governance and efficiency of state-owned enterprises in transport sectors, road safety stricter rules and enforcement measures, incentives for sustainable urban transport. It also includes significant investments for zero-emission and upgraded railways rolling stock, for the modernisation and renewal of railways infrastructure, in particular along the TEN-T corridors, for the improvement of the quality and efficiency of road infrastructure on specific sections of the core TEN-T network, road safety improvements, and sections of the underground transport network in the municipalities of Bucharest and Cluj-Napoc.

Energy efficiency

Energy efficiency accounts for 29% of the total expenditures under the green transition pillar (total cost of EUR 64.4 billion). The majority of investments in this area concern the energy efficiency of residential buildings (total cost of EUR 28.4 billion), typically targeting a reduction in primary energy demand of 30% or more. Some of these relevant investments also include measures aimed at addressing energy poverty, by targeting vulnerable groups for whom the significant upfront costs make it almost impossible to invest in the energy efficiency of their homes. Renovations of public buildings are well represented across the majority of plans (total cost of EUR 20.2 billion), such as in schools, sport halls and historical buildings. Lastly, there are also investments for the construction of new highly energy efficient public and private buildings. Beyond buildings, energy efficiency investments in other sectors will help the decarbonisation of production processes in SMEs, larger enterprises and district heating systems, e.g., by promoting the integration of cleaner and more energy efficient technologies for manufacturing processes and centralised heat production with a total cost of EUR 6.5 billion.

Spain will support more than half a million energy renovation actions in residential buildings by 2026. These energy renovations will achieve on average a primary energy demand reduction of at least 30%. The investments are complemented by a coherent package of reforms, including tax incentives and renovation offices ("one-stop-shops") to facilitate renovations.

The RRP of Belgium will stimulate energy efficient renovations of buildings with a total support of over EUR 1 billion. The wave of renovation will concern more than 200,000 private and social housing units and will cover more than one million m² of public buildings. Belgium faces important renovations needs to meet climate objectives. Energy-efficient renovations of private and social housing will also help addressing energy poverty.

RRPs include several reforms to encourage building renovation in all sectors: private and public buildings, residential and companies. The reforms aim at making financial support available for renovation more efficient (e.g., one stop shop) and more environmentally friendly. In particular, they include conditions for replacing outdated heating systems and encourage their replacement by renewable energy or district heating.

Renewable energy and networks

Overall, total estimated expenditure in clean power – renewable energy and networks – accounts for 12% of the total expenditures under the green transition pillar (total cost of EUR 26.7 billion)[21]. Approximately two thirds of the overall investment in this area will be spent on renewables technologies, with the remaining amount allocated to investments in energy networks and infrastructure (such as deployment of energy storage and smart grids). The measures focus on the construction of offshore or onshore wind energy farms (and associated infrastructure such as energy islands), photovoltaic panels, and the construction of industrial sites using renewable energy.

Lithuania's plan will support private businesses, farmers and renewable energy communities for the acquisition and installation of onshore solar and wind power plants, together with storage installations. Biomass based renewable schemes are also foreseen, as well as biofuel and bio methane facilities.

15 RRPs include measures dedicated, either partly or exclusively, to hydrogen, which is expected to play an important role to reach climate neutrality in the long run. Against this background, Member States' RRPs will contribute to scaling up investments in renewable and low-carbon hydrogen (including using electricity from the grid, which in parallel should be decarbonised) by at least EUR 9.3 billion. Many investments in the RRPs address the whole hydrogen value chain – from production to transport, storage and finally end-use in hard-to-abate industrial sectors and transport.

[21] More detail on this policy area can be found in the "Clean Power" fiche published in the RRF Scoreboard.

RRPs also include reforms of the policy framework supporting renewable energy, such as the adoption of new or prolongation of existing support schemes or the simplification of administrative procedures such as permitting or spatial planning to facilitate deployment. Reforms included in the RRPs aim generally at creating a stable regulatory environment and appropriate synergies between public and private investment.

RRPs also include dedicated reforms to streamline the efficient operation of the electricity markets and the development of new renewable power plants to reach the targets set out in the national energy and climate plans (NECP). Reforms included in the RRPs will accelerate the development of new renewable power plants to reach the targets set out in the NECP, notably through the facilitation of the permitting of renewable projects and enhanced financial support mechanisms. RRPs also include dedicated reforms to streamline the efficient operation of the electricity markets, in particular to facilitate the development of a more flexible energy system. This is essential to support the expected high share of renewable energy. Reforms of the electricity market legislation are included in several RRPs to enable, in particular, the deployment of networks, energy storage and demand response to increase reliability of the system. Reforms will also improve market competition and help creating a stable regulatory environment. Ultimately, these reforms will participate to a more reliable, self-sufficient energy market in Europe, capable of addressing the increasing energy demand.

To support and facilitate the deployment of renewable hydrogen, Romania will amend the existing legislative and regulatory framework with a focus on the transport and energy (gas and electricity) sectors. The reform foresees the adoption of a National Hydrogen Strategy and Action Plan, will remove any legislative and administrative obstacles for the development of the renewable hydrogen technology and contribute to the achievement of the future national and European targets for the production, storage, transport and use of renewable hydrogen by 2030.

Biodiversity, circular economy, sustainable water and pollution prevention and control

RRPs include measures relevant for environmental policies, mainly in four areas: biodiversity and ecosystems; circular economy, waste prevention and recycling; water and marine resources; and pollution prevention and control. These four policies account for 13% of the total expenditures under the green transition pillar (total expenditure of EUR 28.8 billion).

On biodiversity, measures target the conservation of terrestrial and marine biodiversity, the restoration of ecosystems and green infrastructure, ecological connectivity based on nature-based solutions, sustainable forest management as well as the fight against invasive alien species.

Ireland will for example support the restoration of peatlands, a measure which has the potential to promote and encourage the return of flora and fauna in these areas. It is estimated in the Irish plan that over a 30-year timescale 3.3 million tonnes of CO_2 emissions should be avoided thanks to the implementation of the enhanced rehabilitation measures.

On circular economy and waste management, RRPs include investments related to both short-term actions and R&D activities. Examples include investments aiming to increase the circularity of specific sectors, such as plastics, construction or textiles, while R&D activities aim to develop longer-term solutions on the reduction of plastic waste and the promotion of bio economy. Many investments and reforms aim to improve waste management through retrofitting waste sorting and waste management facilities, dedicating particular attention to the treatment of bio-waste. For instance, several Member States have committed to improve their national legislative framework to promote a more circular economy by taxing landfilling or incinerating waste and promoting the reuse of electric equipment or plastic food containers.

Belgium will support the minimisation of radioactive waste generated during the decommissioning of the Belgian nuclear power plants through the demonstration of decontamination techniques.

Italy aims to adopt a National Programme for Circular Economy, and one for Waste Management. In order to support and incentivise recycling practices, Italy will introduce a new digital waste traceability system and include a revision of environmental taxation to make recycling cheaper compared to landfilling. The plan also introduces technical support to local authorities to help them with the procurement in the domain of waste management, such as the development of waste plans or the transparency of public procurement procedures.

On the sustainable use and protection of water, a significant part of measures focuses on water management, also by including metering devices for water abstraction, thereby combining both climate and digital objectives. Other types of water management include measures to target the supply of safe, clean and abundant drinking water as well as the treatment of wastewater collection. Some measures have also related to the enhancing irrigation efficiency. Pollution prevention and control measures relate to the implementation of low emission zones or the reduction of pollution in ports.

Climate change adaptation

Climate change adaptation measures in green activities accounts for approximately 6% of the total expenditures under the green transition pillar (total estimated expenditure of EUR 12.5 billion). Measures in the plans relate mostly to mitigation of flood risks, forest management and prevention of fires.

Cyprus, being a particularly vulnerable country to the impacts of climate change, foresees protective and preventative measures against floods and forest fires. It includes an action plan on water resource management with adaptation measures. Anti-flood and water collection measures will create or upgrade existing anti-flood infrastructure. Overall, it will aim to improve water use and to enhance the safety and sustainable operation of water infrastructures. There are also measures related to increasing country's responsiveness to forest fires, based on delivering firefighting vehicles and equipment, with the ambition of reducing the risk and expansion of forest fires, and the strengthening protection against the risks faced by citizens, infrastructure and forests from these incidents.

Greece includes a specific measure to protect selected cultural heritage sites and monuments, through the implementation of targeted projects and the construction of tailored infrastructures for the prevention of specific climate risks and associated dangers related to climate change.

Other climate-related investment (R&D&I, green skills and green jobs and decarbonisation of industry)

Many RRPs include measures on R&D&I in green activities which make up 6% of the total expenditures under the green transition pillar (total estimated expenditure of EUR 13.4 billion) related for example to green hydrogen energy production, carbon-capture and storage, circular economy, and the aerospace field with a focus on low and zero emissions.

RRPs also include reforms related to green skills and green jobs (EUR 1.5 billion). They cover investments contributing to reskilling and upskilling initiatives, as well as reforms on developing and implementing new targeted active employment policy measures for the needs of the green transition. These include employment support, educational policies and further active labour market policies.

Croatia aims to adopt new frameworks to boost employment linked to the green transition, through grant support for green traineeships, as well as employment and self-employment subsidies for green jobs, and will establish skills vouchers for long-term unemployed and less employable people from vulnerable groups, to provide amongst others green skills.

Spain aims to adopt an Action Plan against youth unemployment, which will introduce three innovative programs targeting young jobseekers, including work-based training in public school workshops, a first professional experience in public administrations and professional opportunities for young researchers.

RRPs also include other investments aiming at mitigating climate change (EUR 5.4 billion), but not captured in the categories listed above, such as the introduction of emission taxes on the industry, the entry into force of broad national climate action plans, the design of regulatory frameworks to hydrogen and CO2 markets, and the promotion of organic farming.

Do no significant harm principle (DNSH)

The DNSH principle is a key design feature of the RRF Regulation that ensures that the RRF results in ambitious plans contributing to the green transition and a sustainable recovery, whilst avoiding the lock-in of unsustainable assets and activities. The RRF Regulation provides that no measure included in a RRP should lead to significant harm to any of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation. These six environmental objectives are: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.

For each measure, the Member State performed and presented in the plan a detailed DNSH self-assessment based on DNSH Technical Guidance[22] published by the Commission to ensure that measures under the plan do no significant harm to any of the six environmental objectives. The self-assessment served as a basis for the DNSH assessment of the plans by the Commission. For several measures, the Commission carried out extensive discussions with the Member States to determine and assess compliance with the DNSH principle prior to the approval of the plans, and to identify the specific conditions required to ensure the respect of the DNSH principle.

The Council Implementing Decision approving the national RRPs include detailed milestones and targets to verify the implementation of the plan. Disbursements under the Facility will be tied to the satisfactory fulfilment of these implementation steps. The Council Implementing Decisions include specific DNSH provisions in the milestones and targets corresponding to several measures (e.g., measures in the areas of energy renovations; energy generation; water management; transport; support to decarbonisation; horizontal schemes and financial instruments). These provisions ensure that the Member States are required to provide the evidence to fulfil compliance with the DNSH conditions for a given milestone or target.

3.3. Contribution of the Facility to the digital transformation (pillar 2)

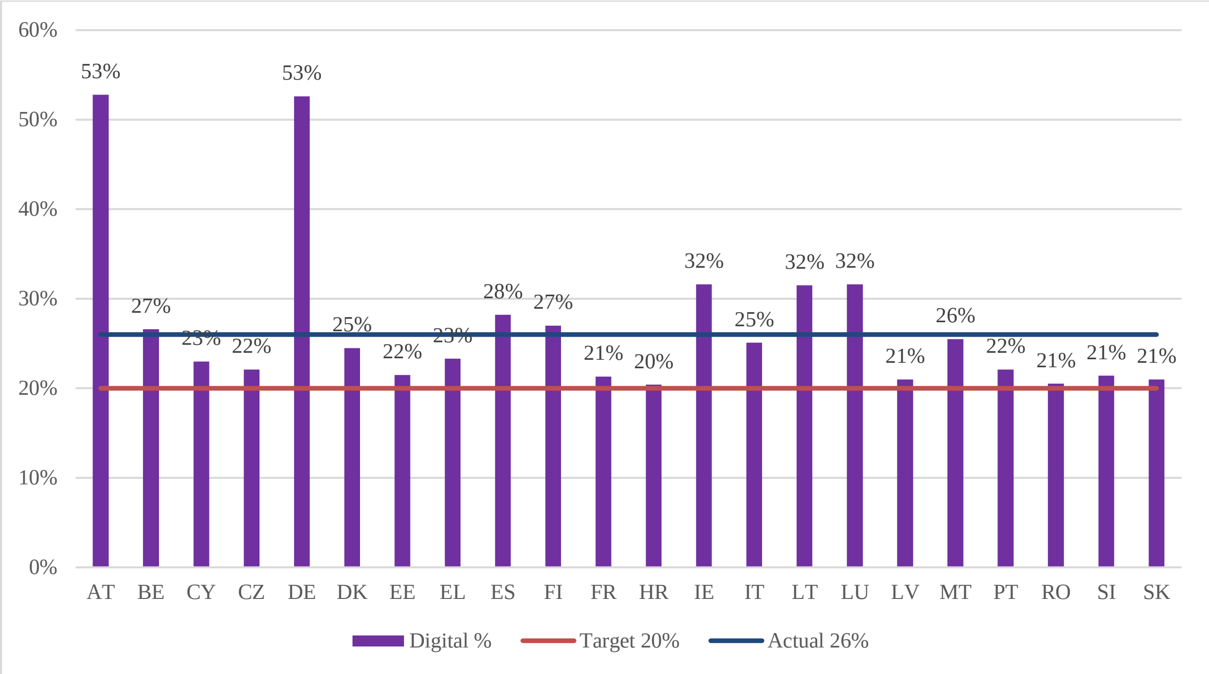
Digital target

The RRF Regulation requires that at least 20% of the total allocation in each RRP shall support digital objectives. The reforms and investments proposed by Member States have exceeded the 20% target; total digital expenditure in the adopted plans amounts to EUR 117 billion, about 26% of the total plan allocation as calculated according to the digital tagging methodology.[23]

[22] C(2021) 1054 final.

[23] The RRPs had to specify and justify to what extent each measure contributes fully (100%), partly (40%) or has no impact (0%) to digital objectives, using Annex VII of the RRF Regulation. Combining the coefficients with the cost estimates of each measure allows calculating to what degree the plans contribute to the digital target.

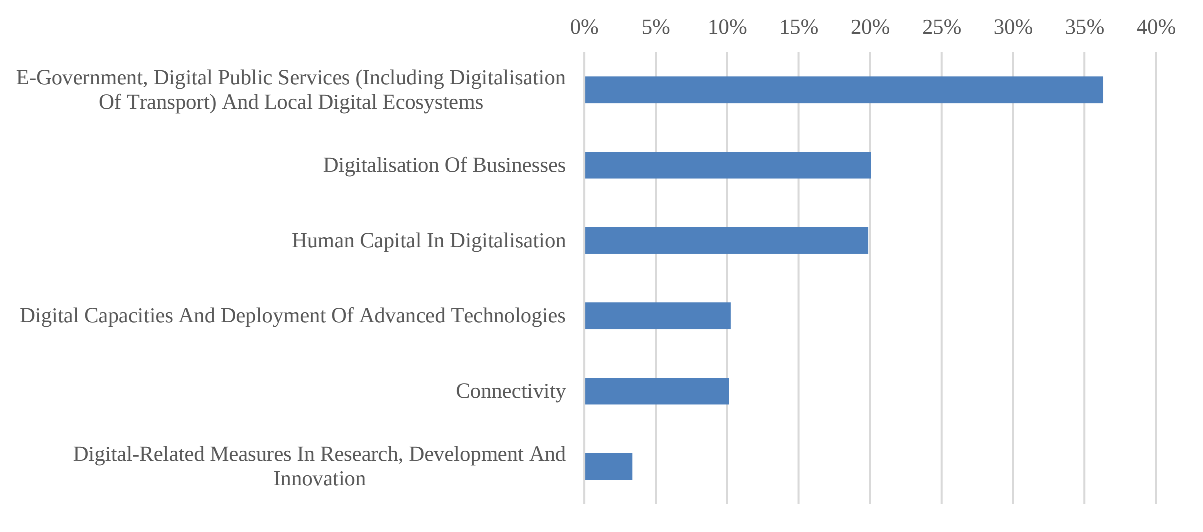
Figure 6: Contribution to digital objectives as share of RRP



Digital transformation

The RRPs include a range of measures supporting the Digital Transformation pillar, such as very high capacity and 5G network deployment, digital skills development for the population and the workforce, integration of digital technologies in government processes, support to the digitalisation of SMEs as well as R&D and deployment of advanced technologies**.** According to the pillar reporting methodology, a total of almost EUR 130 billion of expenditure is allocated to the digital transformation pillar (29% of the total expenditure in the 22 plans). More than a third of digital expenditure is allocated to the digitalisation of public services, including the digitalisation of transport (36%, EUR 47 billion), followed by measures supporting the digitalisation of businesses (20%, EUR 26 billion) and human capital (20%, EUR 26 billion), see Figure 7 below.

Figure 7: Breakdown of expenditure supporting the digital transformation (pillar 2)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the digital transformation pillar.

E-government and digital public services

Measures supporting the digitalisation of public services and e-government represent more than a third of the digital expenditure financed by the Facility for the 22 adopted RRPs (EUR 47 billion, which amounts to 36% of the digital transformation pillar). These measures seek to modernise and improve public administration processes, in order to make them more user-friendly, citizen-oriented and interoperable and to boost the access to and uptake of digital public services by individuals and businesses. Many RRPs include reforms aimed at introducing or improving e-government solutions, such as eID deployment, at ensuring the interoperability of digital public platforms, as well as improving data collection and management.

Croatia's plan includes an investment to enable citizens to easily use online public services on their smartphones by creating a digital mobile e-service platform. It promotes the use of electronic signatures in citizens' interaction with the public administration and includes an investment for the deployment of Croatia's digital identity card to enable users of e-IDs to sign documents on mobile platforms. Croatia's RRP also includes a measure dedicated to setting a "one-stop-shop" harmonising and centralising the helpdesk system of all public administrations' online services, to allow a better communication with public administrations, quicker access to information and possibilities to send feedback and assess the quality of interaction with civil servants.

A number of RRPs include investments aimed at integrating advanced technologies (such as government cloud) in government processes, as well as strengthening the public sector's cybersecurity capacity. Governmental clouds are expected to simplify citizen interaction with public authorities by reducing information processing time, lowering the cost of government services and enhancing the security of sensitive data. Due consideration is also given in a number of plans to strengthening the state's cybersecurity capacity, given that cyber-crimes have demonstrated their potential to block critical public services.

Greece's plan includes a component dedicated to the digital transformation of public entities, which includes wide-ranging cybersecurity and data governance strategies as well as an extended use of advanced technologies, such as cloud computing and big data.

Malta's RRP includes an investment to further digitalise Malta's Merchant Shipping Directorate by developing a number of IT tools and systems (such as the document management system, including the digitalisation of 15 000 physical shipping files, the vessel management system, a digital maritime interface, seafarers' management system and maritime analytics tool). The investment in digital services and a cloud-based infrastructure will help ensure more efficient regulatory practices and improve the internal operations, customer relations and administration within the directorate, in a sector of paramount importance to Malta's economy.

Many RRPs contain measures aimed at the digitalisation of national healthcare systems, including extending the scope of telemedicine services, the consolidation of fragmented national health registries and ensuring the interoperability and security of digital health platforms.

Slovenia's plan includes measures to integrate new digital services into healthcare, promote the use of information technology to communicate with patients and stakeholders, introduce quality monitoring based on real-time data, improve capacity and patient-management planning, and improve the planning of hospital facilities, medical services and material requirements.

The digitalisation of public services concerns several policy areas and provides synergies with the five other pillars supported by the Facility. For instance, supporting the green pillar, some investments reflect the key role of digitalisation in making the EU transport systems more sustainable and resilient, for example through intelligent transport systems (ITS) technologies, urban mobility management tools, multimodal ticketing and multimodal passenger information systems and extension of the coverage of the European Rail Transport Management System.

Finland's RRP supports the Digirail project to introduce the European Rail Traffic Management System on the entire national railway network by 2040, along with the 4G and 5G-based Future Railway Mobile Communication System.

Human capital in digitalisation

RRPs include a wide range of measures to support the development of digital skills, for a total estimated cost of EUR 26 billion, which represent 20% of the digital transformation pillar. Most plans include measures to increase the digital skill levels in the general population and in the workforce. Some plans also include measures to foster advanced digital skills and to train ICT professionals, with the development of training modules in advanced digital technologies for higher education and vocational training. The Covid-19 pandemic has highlighted the need for digitalisation of education, and a number of RRPs include relevant measures.

Portugal's RRP includes an investment, "Digital Academy" which will offer tailored training to the Portuguese workforce to increase the number of digitally skilled workers. A total of 800 000 participants will undergo a personalised diagnosis of digital skills needs and follow targeted digital skills training.

Latvia's RRP includes a measure aimed at significantly increasing the number of specialists with advanced digital skills. The measure consists of developing approximately 20 training modules in advanced digital skills for advanced technologies such as quantum, high performance computing, and language technologies. The training modules will be included in higher education programmes (bachelor, master, and doctoral) as well as educational programmes for professionals in enterprises. The investment will support 3000 participants in the developed modules.

Ireland' RRP includes a measure supporting digital transformation of Irish education and training at all levels (schools, tertiary, lifelong learning), mainstreaming essential digital skills across all settings, and addressing the risk of a digital divide.

Digitalisation of businesses

All adopted RRPs include measures supporting the digitalisation of businesses, for a total of EUR 26 billion, which represent 20% of the digital transformation pillar. Measures in this area include key reforms, the most important being those aimed at simplifying the administrative procedures for businesses and at creating the foundation of a digital business environment, with actions in the area of digital business creation and registration, trust and cybersecurity. These measures are expected to increase the level of trust on the adoption of digital technologies, with a positive effect both on their take up and on the intensity of their use. Reforms related to the digitisation of invoicing are also expected to have a positive impact on the digitalisation of businesses.

Germany will implement the Online Access Act and the modernisation of registers, which are expected to reduce the administrative burden for companies and notably for SMEs. These reforms pave way for the introduction and effective application of the 'once-only principle' through digital means.

Spain will adopt regulatory sandboxes to regulate the use of Artificial Intelligence including the legislative actions on the use of data, privacy and ethical issues.

A number of plans include investments to support the integration of advanced digital technologies in firms' production processes (e.g., automation, artificial intelligence). This type of support can take several forms such as general support like coaching and consultancy services (including through European Digital Innovation Hubs), loans, grants or tax credits for the purchase of tangible (machinery/technical equipment) and intangible (software/trainings) assets or structural measures (including regulatory sandboxes[24]). Moreover, several plans include domain-specific (for example for new processes in commercial activities) as well as industry-specific investments (for example for the tourism or the vehicle manufacturer/supplier sector).

Austria's plan includes a robust package of measures aiming at supporting and facilitating the digitalisation of companies. In particular, the plan contains targeted investments to help SMEs adopt digital technologies, which has proven to be a bottleneck for productivity growth. Denmark's plan contains measures to foster the digitalisation of SMEs by prolonging the existing "SME: Digital" scheme, which provides subsidies for SMEs to digitalise their business and expand the use of new and advanced technology as well as e-commerce solutions. Italy has re-organised and overhauled a number of existing measures into the so-called 'Transition 4.0' scheme, which provides a tax credit for firms investing in Industry 4.0 tangible (digital and automated machinery) and intangible (software) goods, thereby aiming at fostering the modernisation and digitalisation of the production sector.

Overall, both large and small firms benefit from the investments supporting the digitalisation of businesses. However, in addition, most of the plans include measures targeting specifically SMEs, as smaller firms face higher challenges in adopting digital technologies.

Connectivity

The vast majority of RRPs includes investments in connectivity, which account for an estimated cost of EUR 13 billion and represent 10% of the digital transformation pillar. This covers a wide range of actions whose objectives contribute to the deployment of very high-capacity fixed and wireless networks, in line with the EU objectives for the Digital Decade to ensure that by 2025 all European households will have access to high-speed internet coverage and that by 2030 they will have access to gigabit connectivity. Many RRPs include investments supporting the deployment of 5G or fixed ultra-fast or very-high capacity networks to reduce the digital divide.

With 'Broadband Austria 2030', Austria's RRP includes investments in Gigabit networks reaching half of Austrian households with gigabit-capable connections supplying download and upload speed of at least 100Mbit/s and the deployment of new symmetrical Gigabit connectivity, which will benefit in particular rural regions. Croatia's RRP will finance the development of broadband infrastructure in areas where

[24] A regulatory sandbox is a framework set up by a financial sector regulator to allow small-scale, live testing of innovations by private firms in a controlled environment under the regulator's supervision.

there is insufficient commercial interest, which will contribute to reducing the digital divide in Croatia – with a target to reach 700 000 inhabitants in those areas.

Some RRPs also include investments for the installation of fiber optic infrastructures in buildings, and investments which may also have a cross-border dimension, such as those in 5G corridors and submarine fiber cables. In addition, several RRPs also include accompanying reforms in line with the best practices for timely rolling out 5G and fast broadband, as foreseen in the 'Connectivity Toolbox'[25]. Such reforms are expected to facilitate investments in very high-capacity networks by private operators, in particular by removing unnecessary administrative hurdles to investments in networks, by expediting permit licensing procedures for investments in the rollout of wireless and fixed VHCN networks, and by reducing the deployment cost and facilitating network deployment processes.

Cyprus' RRP will finance the installation of new submarine cables to connect Cyprus with the Greek system, through which Cyprus will have access to some of the region's most important internet exchanges and will improve connectivity on the island.

Italy's RRP will finance five measures that are expected to contribute to the national ultra-fast and 5G telecommunications network throughout the national territory: Italia 1 Giga, Italia 5G, Connected Schools, Connected Healthcare facilities and Connected smaller islands.

As regards accompanying reforms, Austria's and Greece's plans are in line with the Connectivity toolbox and include for instance reforms to simplify procedures for broadband deployments, in particular by removing unnecessary administrative hurdles, by expediting licensing procedures and by reducing deployment costs.

Digital R&D, digital capacities and deployment of advanced technologies

Most RRPs include measures supporting research and development in digital technologies and/or investments in digital capacities and the deployment of advanced technologies, for a total of around EUR 18 billion, which represent about 14% of the total contribution to the digital transition pillar. These measures mainly consist in investments in R&D&I activities in areas such as microelectronics, cloud, cybersecurity, and artificial intelligence, as well as infrastructures, including notably supercomputers and quantum communication networks. These investments will at times be carried out in the context of multi-country projects (see section below). Some RRPs also include reforms to complement these investments, with the aim to adjust the R&I policy tools to better support the development of these technological areas, or the legal and administrative framework (notably

[25] See the Commission's Recommendation of 18 September 2020 on a common Union toolbox for reducing the cost of deploying very high capacity networks and ensuring timely and investment-friendly access to 5G radio spectrum, to foster connectivity in support of economic recovery from the COVID-19 crisis in the Union (C(2020) 6270 final).

for what concerns data governance and management) to enable the adoption of the corresponding technologies.

Germany's plan includes a large-scale cross-border European initiative to invest in the next generation of cloud services and infrastructure, to foster the industrial deployment of smart cloud and edge solutions that are highly innovative, highly secure, energy efficient and fully compliant with data protection.

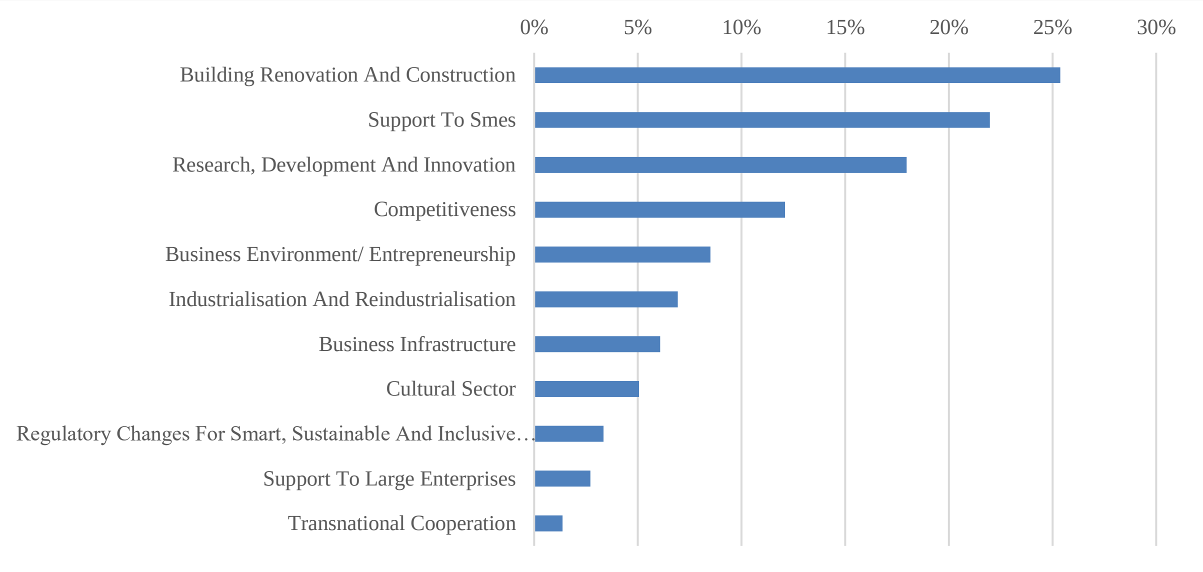
The Austrian RRP will finance research infrastructures and collaborations to, among others, expand the knowledge base for the (further) development of technological concepts as well as hardware and software for quantum computing, simulation and communication.

Belgium, Spain and Slovenia will support the digitisation of the cultural and media sectors. Significant investments will equip cultural and media operators with technological tools for digitalisation and support and promote major cultural institutions' digital transformation, thereby increasing the accessibility of cultural heritage.

3.4. Contribution of the Facility to smart, sustainable and inclusive growth (pillar 3)

Measures contributing to the smart, sustainable and inclusive growth pillar concern more than a thousand measures of the 22 RRPs, for a total of around EUR 223 billion. These measures concern very diverse areas, from support to SMEs to research and development and innovation, to reforms to improve the business environment or competitiveness. They also cover large investments to support smart, sustainable growth such as Spain's support to digitalisation and innovation (EUR 3 billion), Italy's Transizione 4.0 (EUR 10.8 billion), Portugal's capitalisation of its national promotional bank *Banco Nacional de Fomento* (EUR 1.5 billion). These measures also cover a broad spectrum of reforms notably in core areas of the Single Market, like regulated professions (Portugal, Croatia), the status of artists and cultural workers (Czech Republic, Greece, Spain, or Romania), intellectual property (Italy, Greece), market surveillance (Italy), insolvency (Italy, Spain, Portugal, Greece, Slovakia) and public procurement (Italy, Greece, Slovakia, Slovenia, Romania and Latvia).

Figure 8: Breakdown of expenditure supporting smart, sustainable and inclusive growth (pillar 3)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the smart, sustainable and inclusive growth pillar.

R&D&I

All RRPs include measures related to research, development and innovation, for a total of EUR 44 billion[26]. The amount of R&I investments represents typically between 4% and 13% of the RRF grants allocation of a Member State, with a few outliers below or above this range and an average of about 10%.

Several RRPs include both investments and reforms that can have a real transformative impact on the development of Member States' R&I system, shaping it in the years to come. For example, in several Eastern and Southern Member States, which combine high RRF grants allocation and low R&D intensity, the investments included in the RRPs amount to over one year of (pre-Covid) public investments in R&I. Moreover, in some of those countries, these investments are linked to important R&I policy reforms. The proposed reforms often plan to reduce the fragmentation of the scientific research system through the consolidation of scientific research institutions or to increase the attractiveness of research careers in public institutions through changes to the recruitment, salary and career management policies.

The RRP of <u>Slovakia</u> includes a reform which will foster the concentration of excellent educational and research capacities by bringing together universities into larger units. The reform should also allow increasing the cooperation between academic research entities and business.

[26] This includes measures addressing research, development and innovation in general, as well as measures addressing specifically research, development and innovation in relation to the green or digital transitions.

The RRP of Croatia includes a reform agenda aimed at strengthening the public science base by introducing a new performance-based funding system of universities and public research organisations and by enhancing the attractiveness of research careers and revising the career advancement framework of researchers.

Reforms also aim to reduce the administrative burden related to the access to public funding for R&I activities and to support knowledge and technology transfer (from public research institutions to private companies) through the creation of appropriate entities (offices, agencies) and the removal of barriers to academia-business collaboration. Last but not least, reforms included in the RRPs also aim to improve the coordination between the different levels of governance of R&I and education policies, so as to respond to skills needs and enhance employability, especially for the young.

A large number of RRPs contain thematic R&I investments which will allow mobilising R&I capacities in view of accelerating the green and digital transitions and enhancing resilience, in line with EU-level agendas (about 37% and 22% of the estimated cost of R&D&I-related measures has indeed been tagged as contributing to green and digital objectives respectively). These thematic investments will mostly consist in providing financial support to R&I activities and infrastructures. Some Member States also included investments to support Horizon Europe Partnerships and the funding of excellent projects having received the 'Seal of Excellence' under Horizon Europe.

Denmark's RRP aims to provide the public and private sectors with incentives to boost R&D, particularly in innovative green technologies through the set-up of four public-private partnerships called "green partnerships" to develop solutions to four mission-based challenges of reducing emissions in the transport, agriculture, food and waste sectors.

Support to enterprises (including SMEs, Access to finance and financial instruments)

Most RRPs (19 out of 22) include measures which provide direct support to SMEs, amounting to EUR 44 billion which represent approximately 22% of the total estimated expenditure for pillar 3.[27] However, SMEs will also benefit from a larger pool of measures that have a wider policy focus. For example, call for projects supporting R&I in the green and digital areas, financial instruments open to all companies, reforms of the business environment with an impact on SMEs as well as larger firms, or broad measures like the digitalisation of public administration services which will have a positive impact on the operations and costs of many SMEs but will not be exclusive to SMEs. Accounting for these additional measures, all the RRPs include measures that are relevant for SMEs, with a total

[27] This estimate is based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy areas "Support to SMEs" as primary or secondary policy areas.

estimated expenditure of about EUR 109 billion or close to 24% of the total estimated expenditure.[28]

Overall, the scope of the SME measures included in the RRPs covers a wide range of areas, from improvement of the business environment and access to public procurement, to digitalisation of SMEs and improvement of their environmental sustainability. A number of measures also aim at improving SMEs' growth and resilience through improved access to finance, reskilling and upskilling of their employees or strengthening their research and development capacities. Besides the measures which target SMEs explicitly - and exclusively in some cases – a number of RRPs' measures are also expected to indirectly benefit SMEs. This is the case for the large investments supported by the RRP in sectors with high share of SMEs, like construction and tourism or the call for projects for R&D activity to which innovative SMEs can participate.

Croatia will establish a number of financial instruments to provide more favourable financing conditions, with the objective of distributing 1,300 loans/interest rates subsidies to SMEs. Croatia will also invest in the management capacity of SMEs by providing them with business consultancy support.

Latvia will support SMEs with actions on digital skills, reskilling and upskilling, as well as supporting innovative digital infrastructures such as Industry 4.0 solutions.

France's RRP will support the energy renovation of SMEs with a tax credit measure and a specific scheme to support artisans, small traders and self-employed people in their energy renovation works.

Finland's plan specifically targets SMEs by focusing on accelerating the growth of Finnish micro and small enterprises, as well as boosting their internationalisation capabilities by providing business development grants.

In Spain's plan, support to SMEs is significantly focused on digitalisation with a broad scheme (EUR 3 billion) to provide a basic and more advanced digitisation packages to a significant share of SMEs (Digital Toolkit).

Greece's plan also includes several investments aimed at promoting access to finance for Greek firms including SMEs through an ambitious Loan Facility scheme. These investments will be aligned with the five strategic pillars set for the Loan Facility, namely green transition, digitalisation, extroversion, economies of scale through mergers and acquisitions, and innovation (R&D).

[28] These figures are based on the pillar tagging methodology and are based on the measures allocated to the policy areas "Support to SMEs" as primary or secondary policy areas, further expanded taking into account also additional measures, included under other policy pillars or policy areas that are also relevant for SMEs. Measures exclusively supporting SMEs have been identified on the basis of their description in the relevant CID annexes.

In the deployment of their RRPs, Member States also have ample room for manoeuvre to foster the participation of SMEs in large-scale projects as well as the cooperation between small and large enterprises or academia.

The strategic project for the electric and connected vehicle envisaged in the recovery and resilience plan of Spain, PERTE, envisages the implementation of several large, integrated projects covering the entire value chain for the electric and connected vehicle, denominated "tractor projects". It requires that at least 40 % of the participants in tractor projects be SMEs, and that at least 30 % of all aid will benefit SMEs. The measure is expected to contribute to maintaining and developing the participation of SMEs in the automotive industry value chain and to create new business opportunities for start-ups and SMEs.

Business environment

Most RRPs include measures to improve the business environment, with reforms and investment representing EUR 17.2 billion and 8.5% of estimated expenditure in this area. In particular, measures aim to improve the easiness of doing business by reducing the red tape for firms and entrepreneurs and with a liberalisation of business regulation and to reduce restrictions in highly regulated professions. Measures also aim to attract foreign investments and talents or to develop key sectors like culture and tourism. Some RRPs introduce packages of reforms to increase the competitiveness of public concession and public procurement.

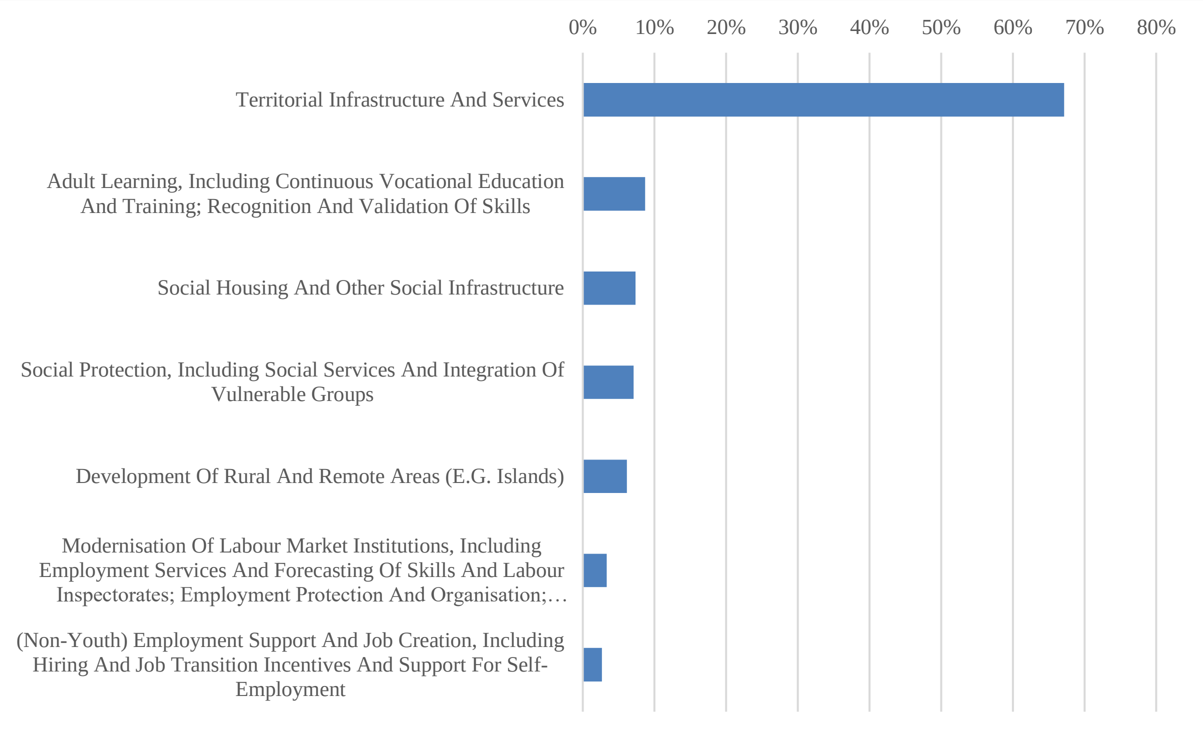
Greece's RRP includes a reform under aimed at reducing the administrative and regulatory burden on businesses. The reform comprises a series of interventions to simplify procedures such as getting credit, obtaining an electricity connection, registering property, and getting a construction permit. Spain is planning to adopt a new start-up law which will create favourable conditions for the creation and growth of innovative start-ups. Austria also includes a start-up package tailored to the needs of start-ups, innovative SMEs and social entrepreneurship.

The majority of RRPs include measures in the area of business infrastructure, industrialisation and reindustrialisation, for a total worth EUR 26 billion in these policy areas. These measures notably concern the improvement of rail and road connection to ports, tor to industrial parks and the development of multimodal transport hubs; the rehabilitation of industrial sites including water and waste management; measures to support the circular economy in industrial sites, including recycling hubs; logistic hubs to support the agri-food industry; broadband and 5G connectivity for industrial sites and business districts; creation of data spaces for industrial application or for specific industrial sectors.

3.5. Contribution of the Facility to social and territorial cohesion (pillar 4)

Measures supporting social and territorial cohesion amount to EUR 193 billion of estimated expenditure. Measures aiming at territorial cohesion include in particular large infrastructure investments thus representing more than half of the expenditures contributing to pillar 4 (72%). Social cohesion expenditures in pillar 4 are shared broadly equally between social policies (social protection and social housing) and measures contributing to employment and skills (non-youth employment support, modernisation of labour market institutions and adult education).

Figure 9: Breakdown of expenditure supporting social and territorial cohesion per policy area (pillar 4)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the social and territorial cohesion pillar.

Territorial infrastructure and services, development of rural and remote areas (including islands)

A large number of reforms and investments aims to improve territorial infrastructure and services provided at local level, as well as to fill the gap between urbanised and rural areas. These include measures to support the agricultural sector, to improve infrastructures that can boost the local economy and national competitiveness (such as railways and harbours), and the delivery of services which have a direct impact on the quality of daily life. Many of the measures on territorial infrastructures and services concern the enhancement and innovation of mobility and transport, by improving air traffic management systems, investing in construction, upgrade and electrification of railways, modernising port and harbour infrastructures, and supporting sustainable urban mobility projects, such as high-capacity public transport services and the construction of cycling lanes.

RRPs also include a number of measures to improve the use of natural resources and preserve the environment at local level. This is the case of reforms on sewerage and waste management in the islands, investments to expand water treatment systems in big agglomerations as well as the irrigation networks in rural areas, measures to increase sustainability of agriculture, livestock farming and fisheries and to support the creation of consortia in functional rural areas. As for the territorial services, RRPs envisage measures to strengthen the capacity of municipalities to deliver good quality services through decentralisation reforms and investments to improve performance of public administration at local level.

The plans of Belgium, Denmark and Italy include investments to encourage the construction of bike paths in state roads. This will support access to a more coherent bicycle road network for citizens and the tourism sector and thereby better opportunities to choose the bicycle rather than other modes of transport. In addition, the measures will support a scheme targeting municipal bicycle construction projects.

Cyprus will implement anti-flood and water collection measures targeting Livadia, Kladeri and the centre of Nicosia. More precisely, this investment will support the upgrade of flood channels in Livadia, the construction of a rainwater collection network of 4 600 meters in length in Kladeri, and of a sewer system in Nicosia, including the reconstruction of streets and pavements and the expansion of the rainwater network.

Latvia's RRP foresees an administrative territorial reform to improve the quality of services by reducing the number of administrative units and increasing the efficiency and accessibility of service delivery. The measure includes the adoption of a new Municipality Law reviewing the functions and tasks of local governments. The new law shall ensure better governance at the municipal level, a clearer separation and division of competences between the decision-making and the executive powers, and the increase of the participation of citizens in the decision-making of local communities.

Social protection, inclusion, social housing and social infrastructure

The RRPs cover a broad range of reforms and investments that strengthen Member States' social protection systems. These measures focus on the effectiveness, quality and resilience of social protection systems, depending on country-specific needs as highlighted in the 2019/2020 CSRs. The majority of social protection investments under the RRF relate to upgrading, expanding or improving the social services network and facilities provided by public and private social institutions. They also include specific measures addressing, for instance, the inclusion of people with disabilities, increasing the adequacy and sustainability of social benefits, and improving the living conditions of elderly people in need of care. A number of Member States also include important investments to increase the supply of social housing and social infrastructure to vulnerable groups. Some Member States also included in their RRPs steps for the reform of the minimum income and pension systems to increase their adequacy and sustainability. The measures in favour of social protection and social housing account for around EUR 27 billion of estimated expenditure.

Portugal: *'Support Programme for Access to Housing'* is an investment to safeguard decent and adequate housing for families with the greatest needs and for the most vulnerable groups, with the objective to mostly support social housing accommodation for at least 26 000 households in need by 2026. The investments envisage the construction of new buildings, the renovation of existing dwellings, as well as, whenever necessary, the acquisition and leasing of additional buildings to provide social housing.

<u>Lithuania:</u> reform to increase coverage of the unemployment insurance scheme, introducing additional benefits to single elderly and disabled people, as well as improving the pension indexation mechanism to alleviate old-age poverty.

<u>Croatia:</u> the RRP includes a reform and an investment on social mentoring, to roll out an individualised mentoring service at social welfare centres targeted at individuals at risk or in a marginalised position. This new service will focus on the integration of persons with disabilities, victims of violence, homeless people, migrants, Roma, young people, persons serving prison sentences and members of other socially vulnerable groups.

<u>Spain:</u> reform on protecting families and recognising their diversity, which provides legal recognition of the different types of family structures and determine the benefits and services that they are entitled to depending on their characteristics and income levels.

Employment support, modernisation of labour market institutions and adult education and training for target groups other than youth

Almost all Member States included in their RRPs a range of reforms and investments to support job creation, upskilling and the modernisation of their labour market. These measures respond to the country-specific recommendation linked to employment support and labour market in the last two years addressed to almost all Member States. In particular, a majority of Member States were asked in 2020 to 'mitigate the employment impact of the crisis and to strengthen jobs support', while various more specific structural challenges were also identified.

Employment and active labour market policies represent a key aspect of almost all RRPs, also in line with the Commission Recommendation on Effective Active Support to Employment (EASE) following the COVID-19 crisis. The plans include investments and reforms to increasing the participation of women, young people, and vulnerable groups in the labour market, support job creation and the transition to new sectors and occupations, to boost employment and improve the performance, functioning and resilience of labour markets. In total, measures supporting employment and the modernisation of labour market institutions account for around EUR 11.3 billion, which correspond to 6% of the allocation under pillar 4.

Adult learning will be key to boost social and economic resilience. National plans include reforms to improve lifelong learning, assessment and recognition of skills, upskilling and reskilling to strengthen career pathways, as well as investments to encourage trainings in the private sector (around EUR 16.4 billion).

Italy: investment to support women's participation in the labour market, in particular by investing in childcare facilities and supporting women's entrepreneurship. The latter investment will provide support to female entrepreneurs, foster the creation and expansion of innovative business projects, provide mentoring and training opportunities, and communication actions.

France: the FNE-Training scheme will help companies to invest in training for employees in partial employment, benefitting both the employee, enhancing his employability, and the company, improving its competitiveness.

Greece: horizontal upskilling programmes in digital skills, green skills and financial literacy for over half a million beneficiaries in total will support the employability of the Greek workforce in the green and digital transition. The investment will be preceded by a reform of the life-long learning system that will ensure high quality and labour market relevance of trainings.

Slovenia: the RRP includes a measure supporting the entry into the labour market of young workers, with the provision of financial incentives for employers to hire young people up to 25 years of age on open-ended contracts, conditional to mentoring and job-specific training, including focussing on digital skills.

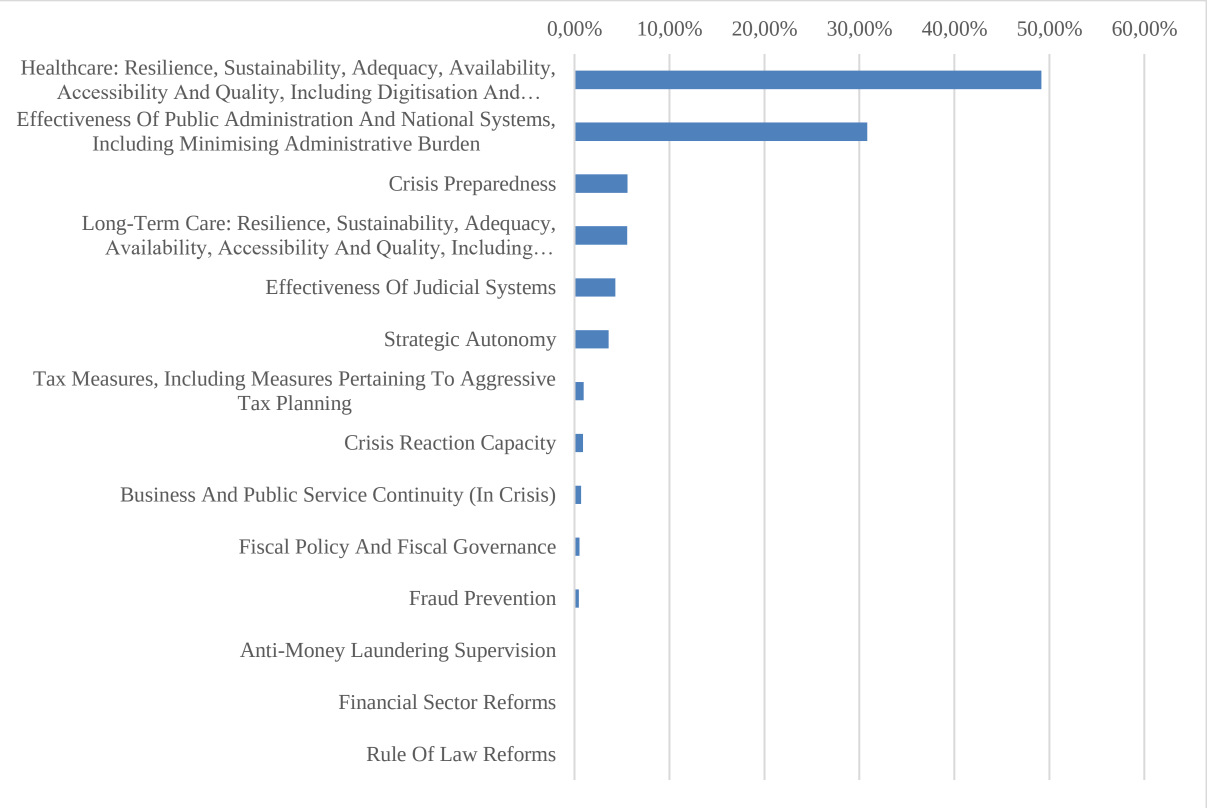
Ireland: activation support for long-term unemployment to provide a quality work experience to at least 10 000 persons who have been unemployed for six months or more. Temporary subsidised work placements are combined with mentoring, access to training and support from public and private employment services to improve longer-term employability.

Spain: reform of employment contracts, amending existing regulations on the use of temporary contracts to promote the use of open-ended contracts. The reform will simplify and reduce the types of work contracts available (open-ended, temporary and training/apprenticeship) and limit the conditions under which temporary contracts can be used. It will provide an adequate framework for apprentices to enter the labour market, reinforce the use of open-ended contract for seasonal activities, strengthen controls to prevent irregular working time and fight against labour fraud, including by updating the sanctioning system. RRPs also include measures to strengthen and modernise public employment services and provide more efficient and targeted support to jobseekers, such as via digitalisation, process optimisation, staff training, and recruitment of temporary staff to face the effects of the crisis.

3.6. Contribution of the Facility to health, and economic, social and institutional resilience, with the aim of, inter alia, increasing crisis preparedness and crisis response capacity (pillar 5)

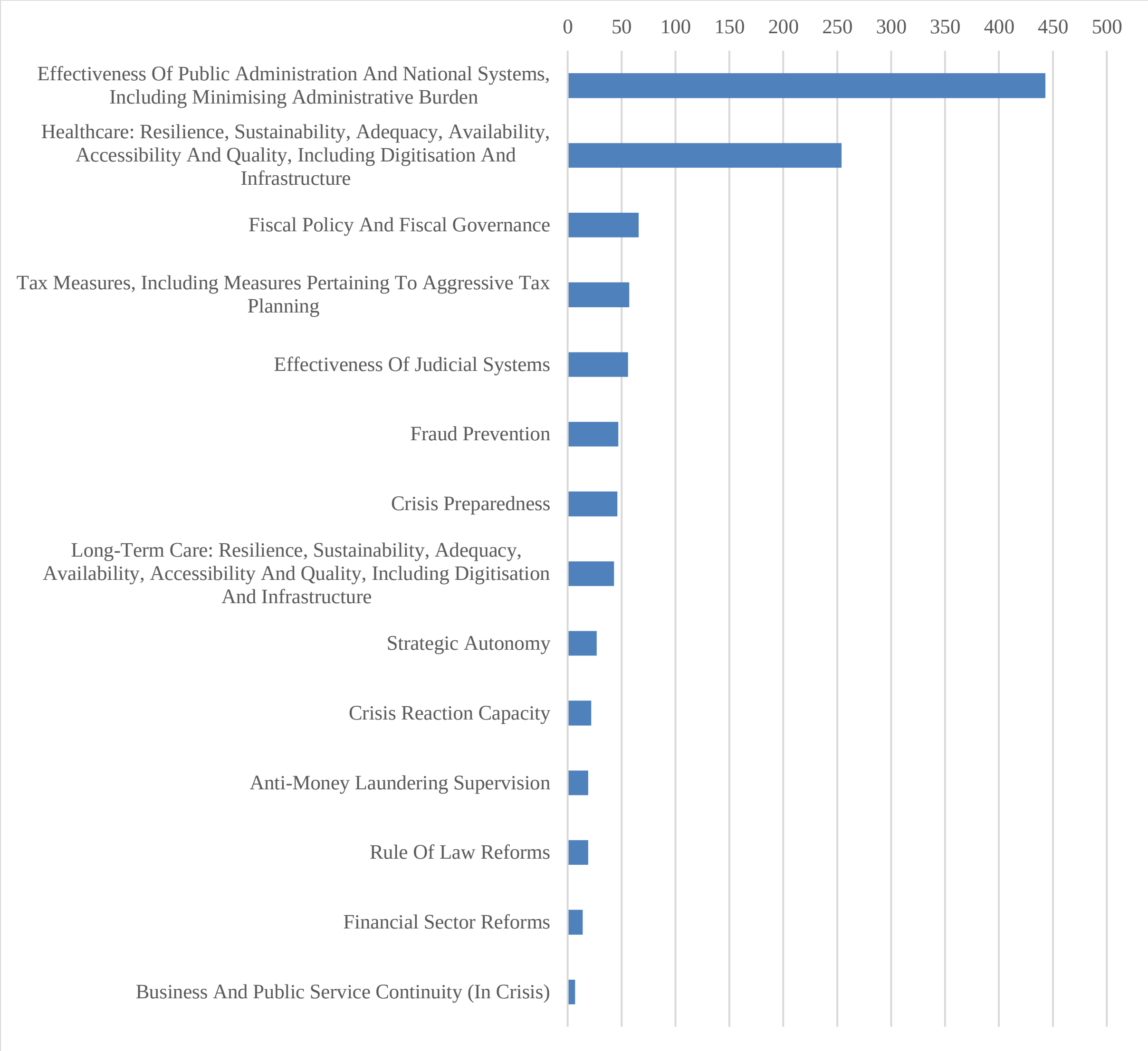
The 22 adopted RRPs include measures supporting pillar 5 for a total amount of EUR 78 billion. While funding is focused on strengthening health care and reforming public administration, the number of measures is distributed more evenly among the policy areas. Pillar 5 can be broken down in 14 policy areas, as shown in Figure 10 below. Health care and public administration are clearly the areas that are benefitting the most, with health care coming first as regards expenditure and public administration regarding the number of measures. Some areas like fiscal policy, fraud prevention or rule of law are allocated only very small amounts of overall expenditure, but they instead benefit from targeted policy reforms.

Figure 10: Breakdown of expenditure supporting health and resilience per policy area (pillar 5)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the health, and economic, social and institutional resilience pillar.

Figure 11: Number of measures supporting health and resilience per policy area (pillar 5)



Health and long-term care

All RRPs include measures related to health care, showing Member States' strong commitment towards improving health systems across the Union. The total expenditure linked to these measures amounts to approximately EUR 37 billion, representing 49.15% of the pillar 5 total allocation. RRPs include a wide array of health investments in their plans. First and foremost, approximately EUR 25 billion are dedicated to the construction of new or the upgrading of existing health infrastructures, including related medical equipment.

Slovenia's plan contains large investments in hospital infrastructure to improve the effective treatment of communicable diseases. Belgium's plan includes important investments in nuclear medicine initiatives aimed at constructing a prototype facility for a sustainable production of medical radioisotopes, and targeted at developing a research programme for the next generation of therapeutic radioisotopes in cancer treatment.

In addition, around EUR 15 billion in investments are specifically allocated to improving primary care and prevention, in particular in rural and deprived areas.

Greece's plan foresees the implementation of a comprehensive system of primary, secondary and tertiary prevention to improve access to high-quality health services for all citizens.

In synergy with the second pillar, many RRPs include measures aimed at the digitalisation of national healthcare systems, including extending the scope of telemedicine services, the consolidation of fragmented national health registries and ensuring the interoperability and security of digital health platforms. The total expenditure for investments contributing to the digital transition in healthcare amounts to EUR 12 billion across the plans.

Romania's RRP will support the development of an integrated e-health system, connecting over 25 000 healthcare providers and telemedicine systems.

Finland's plan will support national and regional actors to develop digital services targeting citizens (e.g., preventive services, symptom assessments, self-care services, digital mental health services, etc.), professional systems (e.g., digital service models based on patient data analysis) and management solutions (e.g., advanced knowledge management and analytics solutions).

To complement investments, Member States also plan to adopt and implement an ambitious reform agenda. Key reforms focus on (i) re-organising health systems to strengthen their capacity; (ii) improving the governance of health systems to increase sustainability of healthcare services, and (iii) establishing mechanisms to attract and retain health professionals in specific regions. This is particularly the case for general practitioners and community nurses, as important shortfalls are reported in available health workforce in some countries. For example, Spain's plan includes a reform aimed at addressing shortages of nurses and doctors, reduce the use of temporary contracts, improve working conditions and enhance training and professional development in certain geographical areas.

15 RRPs include measures related to long-term care (LTC). In total, 43 measures are included in the plans, for a total expenditure of approximately EUR 4.2 billion. Investments in social care homes, nursing homes and related LTC infrastructure and services that are included in the 15 plans aim to support national deinstitutionalisation strategies by promoting a model geared towards community care and home care solutions. As a case in point, the French includes a large investment for the renovation, transformation and equipment of the French medical-social sector, in particular Establishments for Dependent Elderly Persons (EHPAD) over the period 2021-2025.

Effectiveness of public administration

Over a third of the measures and around two thirds of the expenditure linked to the effectiveness of public administration and to business and public service continuity relate to the digital transformation. The measures furthering the public administration´s digital transformation with the largest expenditure as a percentage of total RRP allocation can be found in Germany's and Malta's plans. Indeed, 10% of Germany's total RRP allocation is devoted to a reform which seeks to make public services digitally available by 2022. Similarly, Malta's plan includes an investment accounting for almost 6% of its total RRP allocation to enhance customer experience with online services.

Across RRPs, measures to enhance the civil service, diminish regulatory and administrative burdens and improve public procurement contribute to enhancing the effectiveness of public administration. 10 RRPs contain measures to improve the training, development and work conditions of civil servants by facilitating flexible working arrangements, implementing a better pay system in the public service or modernising recruitment processes for example. In turn, 5 RRPs include public administration reforms to ease or reduce the regulatory and administrative burden for businesses by simplifying procedures and requirements relating to business activity, simplifying regulatory requirements for professional services or implementing the "SME test". Finally, 10 RRPs aim to improve public procurement by developing electronic procurement or streamlining the awarding process.

Romania's RRP includes measures to improve the quality and effectiveness of the public administration, notably with measures to reinforce the effectiveness of the judicial system and fighting corruption.

Latvia's RRP includes reforms and investments for the modernisation of public administration, centralising administrative support functions and investing in training staff in public administration.

Croatia's RRP lays out a reform for the continuous provision of public procurement training. This reform will contribute to the enhanced prevention of corruption and the improvement of the capacity and efficiency of the Croatian public administration.

Effectiveness of judicial systems

Measures to improve the effectiveness of the judicial systems are found in 13 RRPs. More than half of these measures are investments worth EUR 3.75 billion. Notably, 75% of the total expenditure in this area is allocated to the Italian RRP which devotes a total of EUR 2.268 billion for investment in human capital to strengthen the Judicial Office and overcome disparities between the different judicial offices.

A third of these measures and almost half of these measures' total expenditure are related to the digital transformation. Investments in the RRPs of Cyprus, Greece, Romania, Slovakia and Croatia are focused on improving judicial infrastructure. Three RRPs (Cyprus, Croatia and Italy) also include reforms to reduce the backlog of cases pending before courts. Some RRPs (Cyprus, Latvia, Croatia, and Romania) contain measures to improve the quality of judicial systems by training employees.

Romania's RRP includes an investment to support the preparation and transition of the Romanian judicial system to a centralised electronic case management system. It also spells out a reform to strengthen the independence of magistrates, and which will provide for the admission to the profession and career advancement of magistrates on meritocratic grounds, among other things.

Malta's plan devotes numerous reforms to combatting weaknesses with respect to the independence of the judiciary, the lack of a separate prosecution service from the investigative branch and the challenges linked to the effective detection and prosecution of corruption. To name a few examples, the plan contains measures to reform the method of appointment and dismissal of the judiciary, create a separate prosecution service and reform the Permanent Commission Against Corruption (PCAC).

Slovakia's plan contains a reform which entails a package of legislative changes aimed at further increasing the efficiency, integrity and independence of the justice system and fighting corruption and money laundering more effectively. In Slovakia's plan in particular, four investments aim to expand, upgrade, build or procure new suitable premises for key courts in the new judicial map introduced under the RRP and modernise the courts' IT equipment.

Croatia's plan contains a reform to establish a legal, organisational and technological framework that will contribute to reducing backlogs and shortening court proceedings and focus on the transparent and efficient administration of the justice system. This reform's goal is to increase citizens' trust in the justice system.

Italy's plan includes various measures to reduce the backlog of cases for Civil Ordinary Courts, Administrative Regional Courts, the Civil Court of Appeal and the Council of State. These measures aim to make the judicial system more efficient by reducing the length of proceedings and bringing Italy closer to the EU average in terms of duration of proceedings.

Cyprus' plan includes an investment to train judges on various legal topics and judicial skills to address the low level of training and lifelong learning for judges.

Latvia's plan contains an investment to establish a single training centre for the development of the qualifications of judges, court staff, prosecutors, assistant prosecutors and specialised investigators.

Fraud prevention /Anti-money laundering supervision

17 RRPs contain measures associated with the fight against fraud and anti-money laundering and most of the measures included in the plans are reforms.

Estonia's plan includes an investment to establish the strategic analysis of money laundering and terrorist financing in Estonia. This measure aims to strengthen the capacity of the Financial Intelligence Unit to identify money laundering schemes and channels at an early stage.

Slovakia's plan includes an investment aimed at providing the tools and capacity for the fight against corruption and money laundering.

Croatia's plan also displays many anti-money laundering measures, among which a reform to enhance cooperation between the Anti-Money Laundering Office and the supervisory authorities.

Finland intends to implement a reform aiming at facilitating the collection and exchange of information between the competent authorities for the prevention and detection of money-laundering, including through the automation of data processing and analysis. Bank and payment accounts control system will be amended to increase the efficiency and the prevention detection and prosecution of money-laundering and terrorist financing.

Greece's plan contains a reform aiming at setting up a digital platform for the collection of statistical data held by judicial, supervisory and law enforcement authorities and at improving the special registry for the record-keeping of beneficial ownership information.

Another reform is part of Ireland's plan that consists in the publication of a sectoral anti-money laundering risk assessment of Trust or Company Service Providers (TCSP) and in an increase of the number of inspections of TCSPs. In addition, a working group will review the Regulatory enforcement toolkit under the Criminal Justice Act 2010 (money laundering and terrorist financing), including recommendation on expanding the toolkit to include administrative financial sanctions regime.

Luxembourg also introduced a reform in its plan pursuing two main objectives. First, to strengthen the framework for fighting money laundering and terrorist financing that is applicable to professionals providing trust and company services and investment services by reinforcing the national provisions. Second, to better identify, assess and understand money laundering and terrorist financing. In addition, the Luxembourg Business Register, as the body administering the Register of Beneficial Owners and the Trade and Company Register, will undergo an extensive transformation with a view of extending its sanctioning, controlling, and executive powers, and facilitating the use of its data for the assessment of AML risks.

A few RRPs also include measures related to fraud prevention, for example to fight cybercrime or tax avoidance**.**

Croatia's plan includes an investment to strengthen the capacity of the police to tackle cybercrime.

Spain's plan spells out a reform for the adoption of an anti-fraud law, which aims to strengthen rules against tax avoidance practices that directly affect the functioning of the single market.

Tax measures

More than half of RRPs (14 out of 22) include reforms related to environmental taxes to address the green transition. Most of these measures cover specific tax reforms to be put in place during the plan's lifetime. Some also concern preparatory actions (analyses, assessments, evaluations, reviews or studies regarding the possible introduction of new taxes). Taxes cover a variety of targeted sectors which can be listed as follows[29]: 24 measures relate to energy taxes (including 6 related to preparatory actions), 15 measures are transport taxes (including 3 related to preparatory actions), 9 measures refer to pollution taxes[30] (including 2 related to preparatory actions), 4 measures refer to resource taxes (including 2 related to preparatory actions). In addition to the green taxation measures, several RRPs (9) include taxation measures related to tax policy reforms, measures to tackle aggressive tax planning and measures to modernise tax administration.

Portugal's RRP also includes a measure to assess fiscal incentives to enhance the substitution of non-renewable natural resources with bio-based alternatives. This includes assessing possible tax reforms to support the transition to a sustainable and circular bio economy (i.e. a resource tax). The intention is to support producers to promote production processes using biological resources compared to non-renewable alternatives.

France's plan also includes measures to accompany small and very small enterprises in the ecological transition and energy renovation, which includes a tax credit that can add up to 30 % of the expense of eligible actions (insulation of roofs, walls, attics; solar water heaters or heat pumps).

On tax policy reforms, Spain's plan, for example, presents reforms of the tax system that seek to better meet expenditure and investment needs. In addition to redistributive effects, the aim is to adapt the tax system to the challenges arising from digitalisation and the green transition. Additional actions are planned to prevent tax fraud, to increase the effectiveness of tax control and to incentivise taxpayers' voluntary compliance with their tax obligations.

Lithuania's plan also includes measures targeted at broadening the tax base to sources less detrimental to growth, as well as legal and technical measures to improve tax compliance, and to improve the design of the tax and benefit system to help reduce income inequality and poverty.

The overall objective of measures contained in Cyprus' plan is to increase the effectiveness, efficiency and fairness of the tax system by combatting tax evasion and aggressive tax planning by multinational enterprises. Among other, a reform will impose a withholding tax on outbound payments of interest, dividends and royalty payments, firstly, to jurisdictions

[29] This follows the EUROSTAT environmental taxes classification in EUROSTAT (2013) *Environmental taxes, a statistical guide*, for a definition of environmental taxes (available at https://ec.europa.eu/eurostat/documents/3859598/5936129/KS-GQ-13-005-EN.PDF).
[30] Taxation based on CO2 emissions is considered energy taxation. Taxation based on NOx or SOx emission is considered pollution taxation.

included in Annex I of the Council conclusions on the revised EU list of non-cooperative jurisdictions for tax purposes and, then in a second step, to low corporate jurisdictions. Cyprus will also introduce a further corporate tax residency test based on the incorporation of each entity and digitise the tax administration to increase the efficiency, effectiveness and fairness of the tax system and improve tax compliance.

Ireland included in its plan a reform focused on preventative measures to limit opportunities for aggressive tax planning and in particular double non-taxation by means of outbound payments. The reform consists of an amendment to the legislation on capital allowances on intangible assets, the completion of a corporate tax residency reform and the entry into force of enhanced Controlled Foreign Company rules. In respect of outbound payments, the reform also includes the publication of economic analysis on the impact of recent reforms affecting payment flows; a public consultation on the possibility of introducing measures on outbound payments; and the entry into force of legislation to prevent double no taxation applying to outbound payments towards jurisdictions on the EU list of non-cooperative jurisdictions, no-tax, and zero-tax jurisdictions.

Several reforms are included in Malta's plan. The objective of the first reform is to remove the possibility of exempting the dividends derived from bodies or persons resident in jurisdictions on the Code of Conduct Group list of non-cooperative jurisdictions from being taxed in Malta. The second reform aims to provide guidance to the government for the formulation of policy to mitigate aggressive tax planning risks in the area of inbound and outbound dividend, interest and royalty payments. The third reform focuses on mitigating aggressive tax planning risks stemming from the citizenship-by-investment scheme.

Greece's plan includes tax policy reforms focusing on the codification of tax legislation, as well as on incentives to increase electronic transactions. Other reforms aim to transform the public revenue administration, through digitalising processes, and introducing legislative initiatives to combat smuggling and promote the acceleration of VAT refunds.

Public finances

A number of RRPs also include reforms designed to improve the efficiency of their public finances. Those reforms are addressing the challenges that some Member States are facing in terms of sustainability, for instance by introducing the better use of spending reviews, establishment of multi-year expenditure rules or by extending the prerogatives of independent fiscal bodies. Some Member States have also included reforms linked to green budgeting, to better integrate climate and environmental considerations in the budgetary process.

As an example, France's RRP includes a reform to establish a multi-annual expenditure rule for government expenditure and for extending the prerogatives of the High Council of Public Finances. France's plan also includes a reform linked to the assessment of the quality of public expenditure. This evaluation of public spending should identify the most efficient expenditures favouring growth, social inclusion and the ecological and digital transition.

Belgium has included in its plan measures to make public spending more efficient and sustainable. The systematic integration of spending reviews in the budgetary planning cycles of all government levels will contribute to improve the quality and efficiency of Belgium's public spending, allowing to reprioritise it towards more growth and environmentally friendly expenditures.

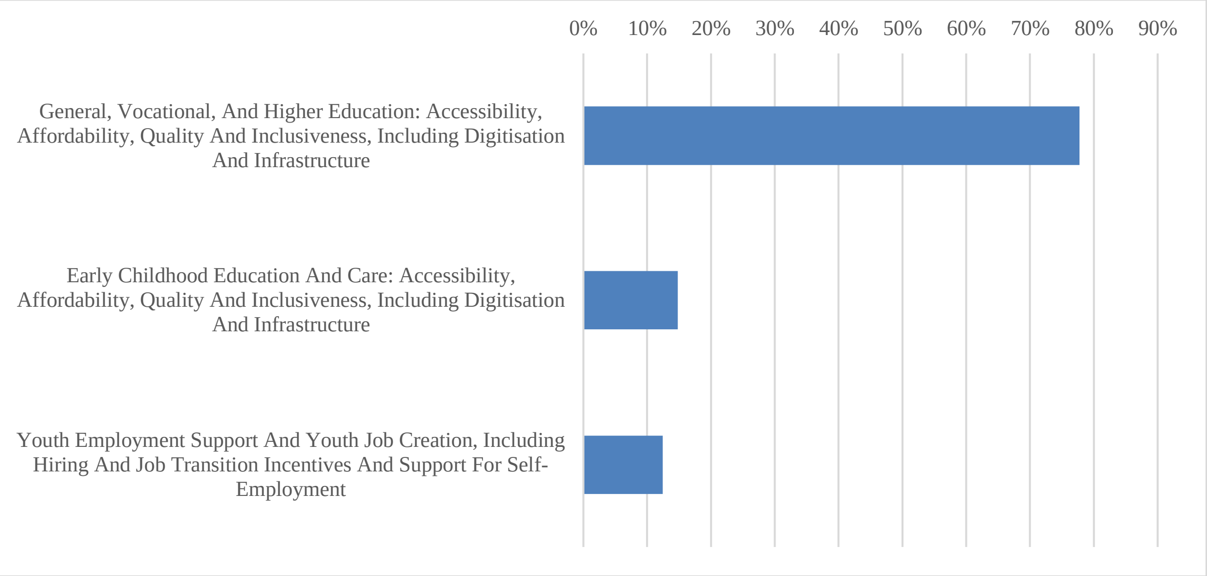
On green budgeting, France includes a measure to introduce a green budget methodology where each expenditure of the State budget is classified according to its impact on each of the six objectives defined in the Taxonomy Regulation.

3.7. Contribution of the Facility to policies for the next generation, children and the youth, such as education and skills (pillar 6)

RRPs include various measures to improve the resilience of Member States' education systems and to support youth employment. Some RRPs also include targeted measures to compensate for the learning loss resulting from the pandemic. The investments and reforms address all levels of education and training (i.e., pre-primary, primary, secondary, and tertiary education and training) with country-specific variations linked to national priorities and challenges.

In total, measures related to pillar 6 account for EUR 49 billion, representing approximately 11% of the total budget of the 22 RRPs. Investments and reforms cover early childhood education and care (approximately EUR 7 billion), general primary and secondary school education, initial vocational education and training, and higher education (EUR 38.26 billion).

Figure 12: Breakdown of expenditure supporting policies for the next generation per policy area (pillar 6)



This chart shows a breakdown of the estimated contribution to the policy pillar according to a list of policy areas established by the European Commission. The percentage relates to the overall expenditure tagged under each policy area as a share of the policies for the next generation pillar.

RRPs include various measures aimed at increasing participation in early childhood education and care, in particular among disadvantaged groups, with a view to reduce inequalities. About half of the RRPs include measures to improve access to early childhood education and care by expanding its capacities, inclusiveness and quality.

Many RRPs also include measures to support improvements in quality and inclusiveness in general school education. Some measures offer individualised support to disadvantaged schools and to students, including mentoring, also to overcome learning gaps and potential school dropouts caused by the partial school closure. Other investments aim to increase the number of instruction hours and enable whole-day schooling. Several measures address topics such as implementing a curricular reform, reforming teachers' recruitment mechanisms, fighting early school leaving, improving special needs education, supporting low performing students, improving external evaluation of schools or supporting desegregation.

Half of the RRPs include measures to support the transformation of higher education with a broad range of measures, such as modernising study programmes, expanding study places, launching new study courses, reviewing schools' funding model, developing quality assurance and governance mechanisms, introducing graduate tracking systems, and internationalising higher education. A number of RRPs also support access to higher education.

A majority of RRPs include investments in educational infrastructure to modernise existing buildings, improve energy efficiency or build new facilities covering all levels of education. These investments will support improvements in quality, equity and efficiency in education, as well as the green transition. Infrastructure investments in early childhood education and care and schools are planned in almost all Member States, and for higher education in nine Member States. Some RRPs also include the renovation or construction of student campuses at upper secondary or tertiary level.

18 out of 22 RRPs include reforms or investments in digital education, making up about 30% of the total spending on pillar 6 (EUR 13.8 billion). Most RRPs include investments in digital infrastructure and connectivity of schools, often with a focus on disadvantaged and rural schools. These investments include transforming classrooms into flexible and connected learning environments and equipping learners and teachers with digital devices to reduce the digital divide. Digital competences of pupils will be improved through the adaptation of the school curricula and developing digital resources and content. About half of the Member States include teacher training on digital education in their plans. The digital transition of higher education will be supported through the development of digital infrastructure, digital teaching resources, adaptation of study courses and training, digital training for academic staff, and the development of online courses and strengthening of blended teaching. These measures will improve digital competences of pupils, improve quality and excellence in higher education and enhance the availability of digital skills in the labour market.

Measures to support youth employment include subsidies for apprenticeships, investments to customise public employment service to young people, improve youth coaching and individual guidance towards employment and autonomy, and schemes to incentivise hiring of young people by the private sector around EUR 6 billion.

Croatia will implement a comprehensive reform of early childhood education and care (ECEC) with the aim to improve access to ECEC, with a guaranteed place from age 4 in an ECEC facility. The reform is complemented by investments in infrastructure to create 22 500 new places in early childhood education and care.

Slovakia has included in its plan a curricular reform in primary and lower secondary education, which aims to create new learning content to improve pupils' and teachers' skills and to set up a favourable digital ecosystem. By the end of 2023, at least 60% of teachers in primary and lower secondary education are expected to receive training. Complementary investments will increase the percentage of schools with highly equipped and connected classrooms from 30% to at least 90%.

Latvia intends to implement a structural reform to change the governance, funding, and human resources system of higher education. The reform will ensure that funds are allocated according to results and a new unified career model for academic and scientific staff will be developed, in line with established best practices, to promote the attraction and retention of staff. At the same time, the RRP will support the consolidation of the network of universities and scientific institutes through grants.

France has included in its plan a financial subsidy for employers of apprentices during their first year of contract, adding up to maximum EUR 8 000 for over 18-year-olds, and EUR 5 000 for minors. While the aid is open to all companies, companies with 250 or more employees must meet one of the following conditions: to reach 5% of contracts supporting professional insertion in 2021 (apprenticeship and professionalisation contract, VIE, CIFRE); or at least 3% of their workforce participating in dual training programmes (apprenticeship and professionalisation contract) in 2021, as long as there has been at least a 10% increase since 2020. For any apprenticeship contract submitted by the Competence Operator (Opco), the support shall be paid monthly in advance of the remuneration by the Service and Payment Agency (ASP) and from the start of the contract.

Cyprus included in its plan a strategy aimed to improve financial literacy, which aims at enhancing financial education within the general population and enhancing financial decision making.

3.8. Security self-assessments

As per the RRF Regulation, Member States were asked to include in their plans, where appropriate, a security self-assessment for investments in digital capacities and connectivity. 14 Member States provided such a security self-assessment (out of the total of 22 for which recovery and resilience plans were submitted and approved so far): Croatia, Cyprus, Czechia, Finland, France, Greece, Italy, Latvia, Lithuania, Malta, Portugal, Romania, Slovenia, and Spain. These security self-assessments addressed investments in telecommunication infrastructures, in particular for what concerns mobile communications, building on the 'EU toolbox for the cybersecurity of 5G networks'[31], which sets out a number of strategic, technical and supporting measures to ensure a secure deployment of 5G networks. Other types of investments, notably in digital infrastructures and services underpinning the modernisation of public administration and public services (such as governmental clouds), were also covered in the security self-assessments provided by several countries.

A number of RRPs envisage follow-up actions during the implementation phase in order to ensure that security aspects are properly taken into account. Moreover, in a few cases, specific measures focused on security issues in relation to connectivity infrastructures or the digital transformation of public administration are included.

Greece provided a security self-assessment which identifies security issues relevant to investments in 5G networks. It details how those issues will be addressed, based on the common objective criteria included in the 'EU toolbox for the cybersecurity of 5G networks'. The plan of Lithuania includes a security self-assessment for investments in 5G networks, which refers to and describes the national legislation implementing key measures recommended in the 'EU toolbox for the cybersecurity of 5G networks'. As regards the development and extension of a governmental cloud, security aspects feature prominently in the approach outlined for the corresponding measure in the plan. For investments in connectivity infrastructure, development environments for 6G, artificial intelligence and quantum calculations, as well as investments in cyber security exercises and trainings, the plan of Finland indicates that a risk assessment and a risk management plan are prepared for each project and that security risks will be addressed throughout the life cycle of projects. For connectivity investments, the plan describes the national legislative framework that takes into account the 'EU toolbox for the cybersecurity of 5G networks'. For instance, devices that may endanger national security may not be used in critical parts of the communication networks. Security requirements are also planned to be ensured in public procurement procedures and, where necessary, personnel and company security clearance should be applied.

[31] See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Secure 5G deployment in the EU - Implementing the EU toolbox, COM(2020)50 of 29 January 2020.

4. Implementation framework of the RRF

4.1. Contribution of the RRF to implementing reforms and other EU policies

A commitment to significant reforms in every RRP

The adopted RRPs provide a wide set of reforms and investments which effectively address all or a significant subset of challenges identified in the relevant country-specific recommendations addressed to Member States in the context of the European Semester in 2019 and 2020, including also challenges underpinning fiscal recommendations. For a positive assessment, each recovery and resilience plan needed to secure an 'A' rating, and as such contribute to addressing the key economic challenges with reforms and investments.

Member States' commitment to reforms is unique to the design of the RRF and reforms represent almost a third of all the measures included in the RRPs. In line with the RRF scope, the RRPs include reforms and investments addressing existing policy gaps and challenges under six policy areas, namely green transition, digital transformation; economic cohesion, productivity and competitiveness; social and territorial cohesion; health, economic, social and institutional resilience; policies for the next generation. The largest number of reforms concern pillar 5 on health and resilience, followed by pillar 3 on smart, sustainable and inclusive growth.

Figure 13: Number of reforms per pillar

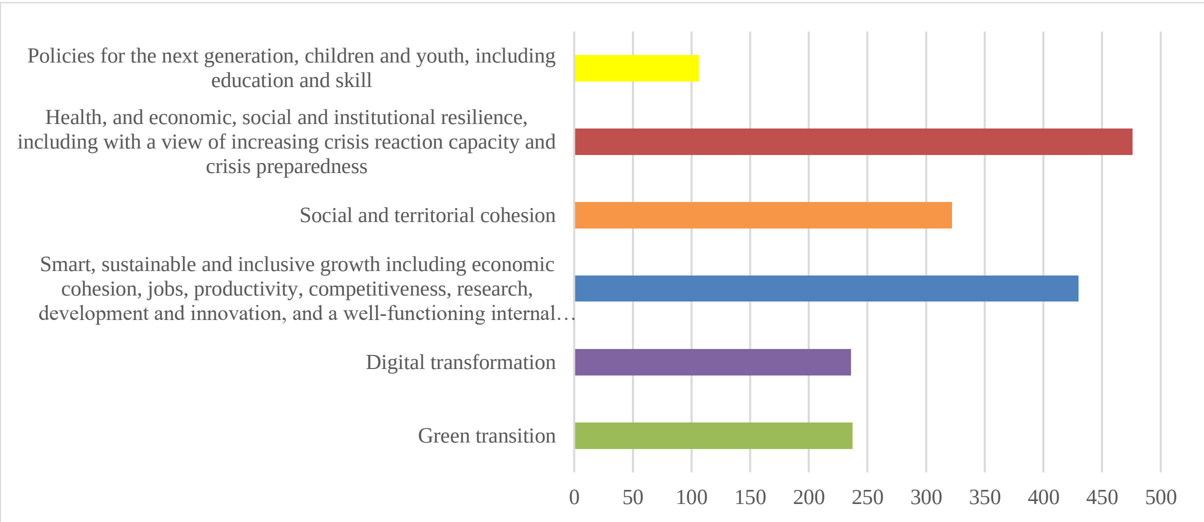
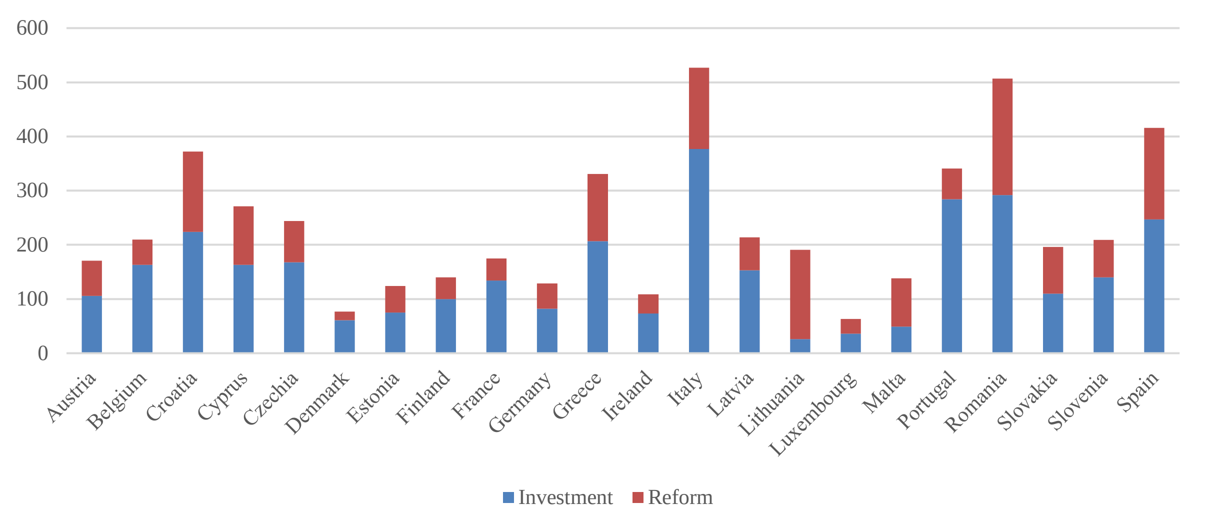
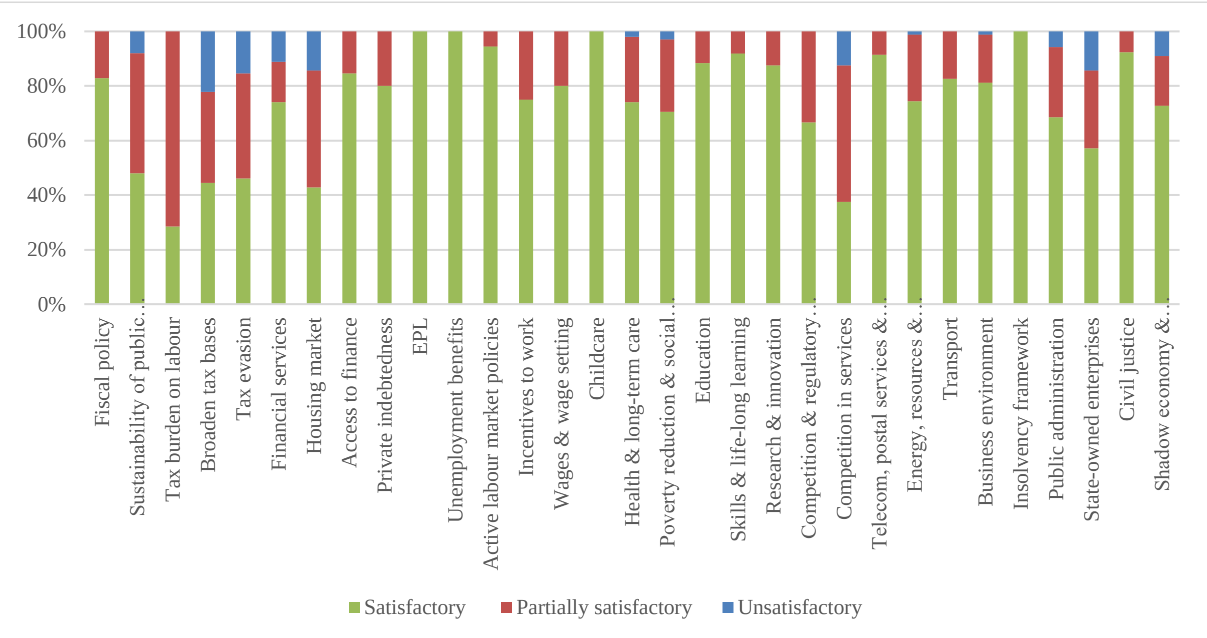


Figure 14: Reforms/Investments per Member State



Reforms proposed in the RRPs contribute to effectively addressing all or a significant subset of challenges identified in the country specific recommendations addressed to Member States in the context of the European Semester in 2019 and 2020, as required under the RRF Regulation (highlighted in Figure 15). Country-specific recommendations that are not systematically covered in the RRPs relate to the areas of public finance, taxation, competition in services, and housing market.

Figure 15: Shares of CSRs covered by the RRPs, by policy areas (as defined in CeSaR)



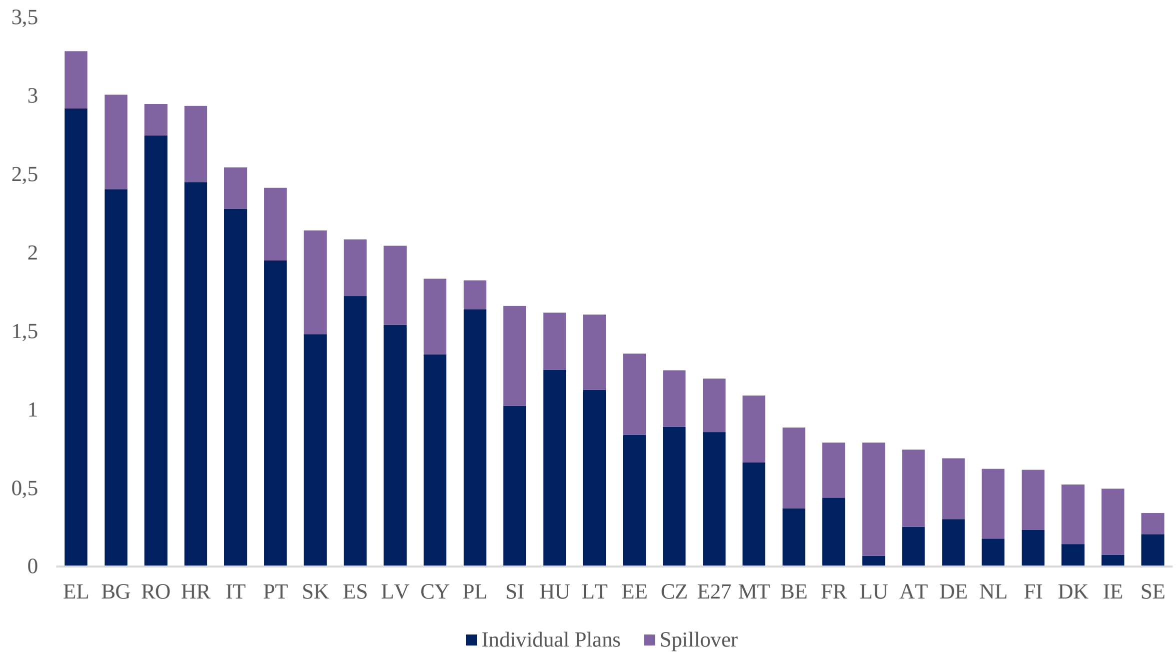
Macroeconomic outlook and impact of the RRF

The RRF supports investments and reforms that are expected to generate a sizeable and persistent positive impact on overall EU GDP. The Commission conducted stylised QUEST model simulations to assess the potential macroeconomic impact of the RRF and

NGEU investment (Pfeiffer et al. 2021).[32] Implemented with a strong focus on high-quality projects and high "additionality", NGEU can increase real GDP in the EU-27 by up to 1.3-1.5% between 2021 and 2026.[33]

The RRPs implementation triggers positive spillover effects. According to the simulation, all Member States benefit from sizable cross-border spillover effects because of rising demand across the integrated EU economy: joint action yields higher growth effects than the sum of individual effects of Member States' RRPs. This spillover channel accounts for around one third of the average GDP impact and is significantly larger for export-intensive economies receiving small grant allocations (see Figure 16). Furthermore, the analysis has not factored in reforms, which can substantially reinforce these growth effects in the medium and long run.

Figure 16: NGEU GDP Impact (%) in QUEST simulations, EU countries



Notes: The graph shows peak effects on real GDP in 2026 expressed in per-cent deviation from a no-policy change baseline for a linear NGEU spending profile (2021 to 2026) under the assumption of high productivity. The dark bars show simulation results for a standalone investment stimulus in each Member State (NGEU). The spillover (light bars) is defined as the difference between the coordinated simultaneous NGEU stimulus in all Member States and the standalone simulations of national plans. Source: Pfeiffer et al. (2021).

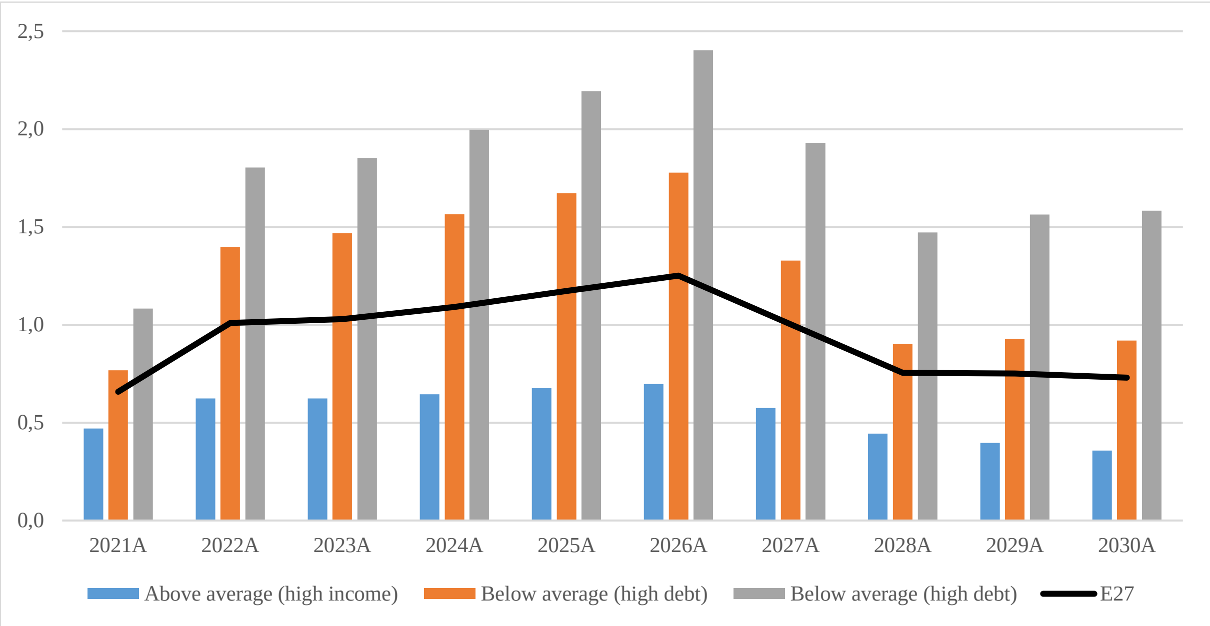
The RRF supports the return of the EU onto a path of economic convergence. The RRF allocation is the largest in terms of GDP for the Member States most in need, contributing to

[32] See Pfeiffer P., Varga J. and in 't Veld J. (2021), "Quantifying Spillovers of NGEU investment", European Economy Discussion Papers, No. 144 and Afman et al. (2021), "An overview of the economics of the Recovery and Resilience Facility", Quarterly Report on the Euro Area (QREA), Vol. 20, No. 3 pp. 7-16. Both studies also highlight the sensitivity of the results to key assumptions.

[33] Depending on the spending profile, over six and four years, respectively. Additionality here refers to funds that do not substitute for recurring national expenditures nor for other EU funds (see RRF regulation (final compromise text) recital 10a, art. 4a and art. 8).

convergence in the EU. The RRF allocation key[34] reflects the fact that those hit hardest by the pandemic often have weaker economic structures and face tighter budgetary constraints. When grouping Member States into three clusters according to their GDP and public indebtedness, Figure 17 underlines that NGEU is likely to strongly support convergence within the EU economy. Based on the RRF's allocation key, the Member States with below-average GDP per capita levels are estimated to experience the largest boost to GDP. At the end of the RRF's implementation period, the increase in output amounts to around 1¾% for the low debt group and 2½% for the high debt group in 2026, according to the model simulations. High-income countries with above-average GDP per capita levels are likely to experience smaller but sizeable GDP effects over the same period. Thus, while the RRF gives a substantial boost to the recovery across the EU, the allocation of financial support ensures that the funds will flow to where they are needed the most.

Figure 17: NGEU GDP Impact (%) in QUEST simulations[35]



Although the pace of growth is projected to remain uneven across countries and sectors, the EU is set to return onto its path of economic convergence. Overall, growth is expected to be supported by an improving labour market, high household savings, favourable financing conditions – and the full deployment of the RRF.

Social outlook and impact of the RRF

[34] The RRF financial contribution per Member State is calculated by taking into account, for each Member State, (i) the population, (ii) GDP per capita, (iii) the unemployment rate, and (iv) the fall in real GDP in 2020 and 2021. It will be updated in summer 2022 based on the most recent EUROSTAT data.

[35] The graph shows peak effects on real GDP expressed in per-cent deviation from a no-policy change baseline for a linear NGEU spending profile (2021 to 2026) under high productivity. The blocks include the following MS: Above-average GDP per capita: AT, BE, DE, DK, FR, FI, IE, LU, NL, SE; EU below average GDP per capita (high debt): CY, EL, ES, IT, PT; and EU below average GDP per capita (low debt): All EU-27 MS not included in the previous groups. Source: Aggregation based on Pfeiffer et al. (2021).

The Facility is supporting some measures to withstand the immediate effect of the COVID-19 crisis, as well as medium-term measures that contribute to furthering the implementation of the European Pillar of Social Rights. The RRPs have a prominent employment and social dimension, in line with the national challenges identified in the country-specific recommendations. The total social expenditure provided for under the national plans in the context of the RRF amounts to around 30% of the total planned EU allocation[36] (see section 3). While it is too early to see the positive effect of the RRF reflected in the employment and social indicators, the implementation of the significant reforms and investments in the social dimension planned in the RRF, in particular ambitious employment, skills and social reforms and investments, are set, together with cohesion policy funds, to promote a fair, inclusive and sustainable recovery. They will also be a key contributor to the achievement of the EU 2030 headline targets on employment, adult education and poverty reduction that were welcomed at the Porto summit.

The contribution of the Facility to resilience in the Union

The adopted RRPs are set to have a positive impact on the resilience[37] of the EU economy, by strengthening Member States' capacities to swiftly recover and addressing their vulnerabilities. The updated (2021) resilience dashboard[38], developed by the European Commission as a follow-up to the 2020 Strategic Foresight Report[39], presents indicators reflecting Member States' resilience capacities and vulnerabilities along four dimensions: social and economic, green, digital, and geopolitical resilience. These areas dovetail with the relevant policy pillars under the RRF: green and digital transition, smart, sustainable, and inclusive growth, social and territorial cohesion, policies for next generation, and in particular health, economic, social, and institutional resilience.

Contribution of the RRF to EU policies

The measures included in the RRPs will contribute to the Union's ambitious policy agenda to steer a sustainable, fair and inclusive recovery and to make the EU's economy more resilient to future shocks, while transforming EU economies and societies in line with the ambition of the twin transitions. Launched at the start of the current Commission's term of office, the four complementary dimensions of the EU's competitive sustainability's agenda (i.e., environmental sustainability, productivity, fairness and macroeconomic stability) feature prominently among the objectives of the RRF and have guided the Member States' reform and investment agendas put forward in their RRPs.

[36] Social expenditure is calculated based on the nine social policy areas grouped in four social categories (employment and skills, education and childcare, health and long-term care, and social policies) as set out in the Delegated Regulation 2021/2105.

[37] The RRF Regulation defines resilience in Art. 2(5) as the "ability to face economic, social, and environmental shocks or persistent structural changes in a fair, sustainable and inclusive way.

[38] Resilience Dashboards report and annex | European Commission (europa.eu).

[39] The 2020 Strategic Foresight Report (https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2020-strategic-foresight-report_en) defines resilience as "the ability not only to withstand and cope with challenges but also to undergo transitions in a sustainable, fair and democratic manner."

On the green dimension, measures included in the RRPs will directly contribute to the objective of reducing net greenhouse gas emissions by at least 55% by 2030, an objective enshrined in the European Climate Law and supported by the 'Fit for 55' proposals[40] adopted in July 2021 to make climate, energy, land use, transport and taxation policies fit for 55.

On the digital dimension, measures included in the RRPs will also directly contribute to the EU objectives of a digital transformation of European society and economy. RRPs include support to objectives across the digital policy spectra: supporting digital skills development of the population and workforce, digital connectivity in underserved areas, development and deployment of advanced technologies, as well as the digital transformation of private and public sectors. In addition, many Member States participate, through their RRPs, in multi-country projects that will support the development of EU key digital capabilities, including microelectronics, cloud and edge. Taken together, the RRF is expected to make an important contribution to the achievement of the Digital Decade targets[41]. **On the social dimension and fair transition, RRPs will also directly contribute to further implement the European Pillar of Social Rights** as well as the new EU headline targets on jobs, skills and poverty reduction put forward at the Porto Social Summit of May 2021. It will also contribute to the recovery of labour markets in line with the Recommendation on Effective Active Support to Employment (EASE) following the COVID-19 crisis.

For now and for the coming years, the RRF will be at the core of the European Semester surveillance framework process for coordinating the economic and employment policies of the Member States and will continue to play this role in the recovery phase and in advancing on the twin transitions. As highlighted in the Annual Sustainable Growth Survey 2022[42], taking into account the need to adapt, the European Semester will evolve in 2022 in line with the implementation of the RRF. The Commission will make every effort to ensure synergies and streamlined reporting obligations between the RRF and the European Semester. Constructive dialogue with Member States will be at the core of the relaunched European Semester, integrated with the dialogue on the implementation of the RRPs.

4.2. RRF contribution to multi-country projects

The RRF supports Member States' participation to cross-border projects, with the planning of reforms and investments for the next five years taking place at the same time in a coordinated way. While each RRP reflects the specific situation of each Member State, some common challenges call for coordinated reforms and investments. Multi-country collaboration can enable the support to large projects that one single Member State could not develop on its own and allow to pool resources, increase impact and achieve economies of scale and synergies.

During the preparation of the plans, the Commission played an active role to encourage Member States to participate in key multi-country projects, which would enhance

[40] COM(2021) 550 final.
[41] Europe's Digital Decade: digital targets for 2030 | European Commission (europa.eu)
[42] COM(2021) 740 final.

coordination for critical investments in strategic sectors – and provide tangible benefits to the Single Market. For example, in January 2021, the Commission organised a workshop on digital multi-country projects, to which Member State participated and facilitated later on exchanges with Member States on these projects. As a result, numerous RRPs include measures participating in a number of multi-country projects, as detailed below.

Green transition

More than half of the RRPs include measures contributing to multi-country projects or cross border initiatives related to the green transition: 12 out of the 22 plans adopted. In total, more than 37 measures (or sub-measures) are relevant to green multi-country or cross-border projects, for a total amount exceeding EUR 271 billion.

- **The multi-country projects** with the highest take-up in RRPs are the eleven potential IPCEIs on hydrogen (included in 8 RRPs). The green multi-country projects also include one electric interconnector (EUR 0.1 billion) and the rail interconnector between Verona and Brenner (EUR 0.9 billion).
- **The cross-border projects will foster EU interoperability of railway, with a significant cross-border dimension.** They first relate the deployment of the European Rail Traffic Management System (ERTMS) (3 RRPs, 5 projects, EUR 3.1billion). ERTMS is about interoperability, digitisation and safety of train services and is key to shift traffic from road to rail for railway freight on cross-border routes. Investment needs in terms of rail signalling across the entire EU (ERTMS) are significant, given that only 11% of the TEN-T corridors are adequately equipped. In addition, the RRF will finance the deployment of TEN-T rail corridors (e.g., RailBaltica, Mediterranean (Spain-France), Scandinavian-Mediterranean (Italian section) North Sea-Mediterranean (Belgium-Luxembourg)) for an amount exceeding EUR 22.9 billion (ca. 6 RRPs, 23 projects).

Table 3: Green multi-country projects in the adopted RRPs

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	*Total*
IPCEI Hydro-gen	•	•				•				•	•	•				•							•					**8**
Electric interconnector				•																								**1**
Rail interconnector																	•											**1**
ERTMS										•						•								•				**3**
TEN-T corridors	•							•		•			•			•								•				**6**

Digital transition

Most RRPs include measures contributing to multi-country projects or cross border initiatives related to the digital transition: 20 out of the 22 plans adopted, with the exception of Denmark's and Malta's plans. In total, more than 60 measures (or sub-measures) are relevant to digital multi-country projects, for a total of about EUR 5 billion.

The two potential IPCEIs on microelectronics (12 RRPs) and cloud technologies (6 RRPs) are amongst the multi-country projects with the highest take-up in RRPs. Several RRPs also include investments in multi-country projects related to the European Digital Innovation Hubs (8 RRPs), 5G corridors (7 RRPs) and quantum communication (4 RRPs). Table 4 summarises the uptake of digital multi-country projects in the adopted RRPs.

Table 4: Digital multi-country projects

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	*Total*
Micro-electronics	●	●			●	●				●	●	●				●			●					●		●	●	**12**
European Digital Innovation Hubs					●					●			●		●	●			●				●				●	**8**
5G corridors					●				●	●	●					●	●		●									**7**
Cloud						●				●		●				●			●							●		**6**
Euro Quantum Communi-cation Infra-structures					●				●									●								●		**4**
Euro High Perf. Computing									●							●											●	**3**
Connected public administration									●				●										●					**3**
Genome of Europe										●							●		●									**3**
Submarine cables				●					●																			**2**
Blockchain (EBSI)					●																					●		**2**
Security Operation Centers									●							●												**2**
Skills + education																												**0**
Other					●			●	●	●	●					●			●					●			●	**9**

4.3. Implementation of the RRF and the involvement of all relevant stakeholders

Consultation of social partners, local, and regional authorities

Member States have taken different approaches to stakeholders' consultation in the context of the preparation of their respective RRP. The RRF Regulation includes an obligation for Member States to provide, as part of their plan, a summary of the stakeholder consultations conducted during the preparation of the RRPs, including of social partners and local and regional authorities. It was up to each Member State to decide how to organise its consultation process in line with their national traditions and legal frameworks, and Member States have taken different approaches. For instance, while some consulted on the overall plan, others did so at sectoral or regional level. During the pandemic, social partners supported the design and implementation of emergency and recovery measures, and of the recovery and resilience plans in all Member States. However, their consultation and involvement differed significantly across Member States and, overall, social partners shared with the Commission mixed feedback on the consultation process at national level, ranging from regular and detailed consultation to more limited consultation processes. Local and regional authorities also often conveyed that they consider they should have been more involved in the preparation of the plans.

The Commission regularly underlines the importance of stakeholder involvement to Member States, both for the preparation and implementation of the plans. For the implementation of the plans, the Commission regularly encourages Member States to engage actively with social partners, civil society organisations and other stakeholders through dedicated regular meetings. These exchanges could also be an opportunity to engage on the broader economic, employment, social and sustainability policy coordination agenda and will help to commonly identify challenges, improve policy solutions and contribute to a successful implementation of the Recovery and Resilience Facility. Beyond the structures and procedures that Member States have in place at national level for involving local and regional authorities, the Commission and Member States will hold an annual event with the participation of those responsible for implementing the recovery and resilience plans. This annual event will include all relevant stakeholders, including local and regional authorities. It will also serve as a horizontal platform to exchange views on the plan's implementation and ensure close cooperation between all actors involved.

Inter-institutional dialogue and democratic accountability

The Commission is cooperating closely with the European Parliament and the Council on the RRF and has shown a strong commitment to ensure a transparent flow of information. During the phase of the assessment of the plans, the Commission provided information to the European Parliament orally and in writing. In line with the RRF Regulation, the Commission shared without undue delay all Recovery and Resilience Plans officially submitted by Member States. In order to facilitate the readings, the Commission also provided English machine translations of all submitted plans. The Commission published and transmitted immediately to the European Parliament and the Council each proposal for the Council implementing decision the day of its adoption, together with a Staff Working Document outlining the Commission's analysis of the relevant recovery and resilience plan. Furthermore, the Commission provided the European Parliament and the Council with an overview table of key information as well as other information related to the implementation of the Facility, including the communication strategies. All relevant documents and information were shared simultaneously and on equal terms with the European Parliament and the Council, pursuant to Article 25 of the RRF Regulation.

Looking ahead at the plan's implementation, the Commission set up a process for sharing the overview of preliminary findings concerning the satisfactory fulfilment of the relevant milestones and targets. This already proved useful to share the findings related to the first payment request submitted by Spain end of 2021. The Commission will continue to cooperate closely with the European Parliament and ensure a transparent flow of information with a high level of availability and engagement throughout the implementation phase in the years ahead.

The Commission held regular exchanges with the European Parliament to discuss horizontal topics concerning the RRF. Four 'Recovery and Resilience Dialogues' took place in 2021 to exchange views on the RRF as foreseen by the RRF Regulation. Furthermore, the Commission was invited to meet on a regular basis with the standing Working Group of the joint ECON-BUDG Committees and participated in 15 meetings in 2021. These fora allowed to orally share aggregate information on the RRPs on the basis of presentations shared with the European Parliament and the Council on equal terms and published on the Commission website[43]. This engagement will continue in line with the Commission's commitment to the democratic accountability of the Facility.

The implementation of the RRF is also discussed in the strengthened inter-institutional dialogue at European level, with both the European Parliament and the Council. A continuous exchange on social and economic developments in the European Union is ensured by the biannual Macroeconomic Dialogue at political and technical level between the Council, the Commission and representatives of the European social partners. This format has already been used to discuss the implementation of the Facility and it will provide further opportunities to discuss this topic in the future.

Communication on the RRF

Under the RRF, recipients of financial support shall acknowledge the origin and ensure the visibility of the Union funding[44], in particular when promoting the actions and their results, by providing coherent, effective and proportionate targeted information to multiple audiences, including the media and the public.

[43] https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility/information-provided-european-parliament-or-council-recovery-and-resilience-plans_en.
[44] including, where applicable, by displaying the emblem of the Union and an appropriate funding statement that reads 'funded by the European Union – NextGenerationEU'.

Member States have put in place national websites and published their recovery and resilience plans. These are also available on the Commission's Recovery and Resilience Facility website[45]. Furthermore, as mentioned in section 1, the Commission launched a Scoreboard that features sections providing an overview of the countries, pillars, timeline, milestones and targets, disbursements, common indicators and thematic analyses.[46]

Member States have also, as part of their RRPs, included an outline of their communication strategies, which fulfil the minimum visibility and communication requirements applicable to EU funds defined in the RRF Regulation as well as in Article 34 of the Regulation (EU) 2021/241. Work on these strategies is progressing in line with the advancements of the Member States' implementation of their national plans. The Commission provides regular advice to Member States in this area.

To further increase the visibility of the RRF and work hand-in-hand with Member States, the Commission has enlarged the INFORM EU network to include RRF communicators[47]. This network brings together communicators from Member States and the Commission across EU funds. The participation of the RRF ensures synergies with Cohesion policy funds as well as with other EU funds on communicating the EU. Within this network, the Commission has established regular meetings with the RRF communication coordinators from Member States. During these meetings, the Commission provides advice to Member States on the visibility and communication requirements under the RRF, such as developing the communication strategy, establishing a national RRF website, or ensuring the visibility of EU support by final beneficiaries. The network also provides a forum for exchanges of best practices and peer learning among Member States.

The European Semester Officers posted in the Commission Representations have an important role in fostering cooperation on communication in each Member State. They have established contact with their counterparts in the national administrations dealing with communication to ensure that communication efforts are undertaken jointly. This cooperation increases the visibility of the RRF, for instance through joint events with high level representatives of Member States and the Commission that highlight the European dimension of RRF-supported projects. Cooperation is also being established with the European Parliament Liaison Offices to ensure that the Commission informs them of relevant activities and involves them where appropriate.

[45] Recovery and Resilience Facility | European Commission (europa.eu).
[46] Recovery and Resilience Scoreboard (europa.eu).
[47] INFORM EU network is an EU-wide network of communication officers responsible for communicating EU and Member State investments under shared management covering the following EU funds: Regional Policy: European Regional Development Fund (ERDF), Just Transition Fund (JTF) and Cohesion Fund (CF); Social Policy: European Social Fund (ESF+); Home Affairs: Asylum, Migration and Integration Fund (AMIF), Border Management and Visa Instrument (BMVI) and Internal Security Fund (ISF); Maritime Affairs: European Maritime, Fisheries and Aquaculture Fund (EMFAF). In addition the network covers the RRF.

Technical Support to Member States

Some Member States have requested technical support for implementing their plans, under the Commission's Technical Support Instrument (TSI) which provides capacity building support to Member States. In 2021, more than 140 projects were contributing to the implementation of the RRPs. The projects cover support for the overall implementation mechanisms of the RRPs (e.g. monitoring, reporting, project management, coordination, audit and control mechanisms, the application of the do-no-significant-harm (DNSH) principle or the communication), but also support for the implementation of thematic reforms and investments (e.g. the execution of a national artificial intelligence strategy in Spain, measures to support spending reviews in Belgium, or the development of a National Hydrogen Strategy and Action Plan in Romania).

In 2021, Cyprus, Greece, Croatia, and Romania embedded in their RRPs additional technical support for the implementation of reforms or investments linked to their RRPs under Article 7(2) of the RRF Regulation. Moreover, Croatia also transferred national funds to the Commission under Article 7 of the TSI Regulation, in order to finance additional technical support for three reform projects contained in its RRP. This will allow for 8 additional TSI projects contributing to RRP implementation in the areas of healthcare, education, public procurement, energy, better regulation, administrative burden reduction and investment promotion.

4.4. Control system and protection of the financial interests of the Union

As a performance-based programme, payments by the Commission to Member States are based on the completion of milestones and targets indicated in the recovery and resilience plans. Member States are the beneficiaries of the RRF funds, which, once disbursed, enter the national budget. For each RRP, the Council Implementing Decision establishes the associated set of milestones and targets and the relevant amount for each instalment. When a payment request is submitted by a Member State, the Commission assesses the satisfactory fulfilment of each milestone and target indicated as completed by the Member State. If some of the milestones and targets are not fulfilled, the payment can be partially suspended. In 2021 the Commission established a monitoring and control framework for the RRF, including dedicated audit and legal units, and specific control and audit strategies designed for the Facility. The Commission further established thorough internal procedures for the assessment of Recovery and Resilience Plans and subsequent payment requests, ensuring effective and efficient ex-ante and ex-post controls.

Each Member State must put in place an effective and efficient control system. This obligation is foreseen in Article 22(1) of the RRF Regulation. Each Member State must detail its national control system in their national RRP and such system is assessed by the Commission as either 'adequate' (A) or 'insufficient' (C)[48]. If the arrangements proposed by

[48] It assesses in particular whether the control system is based on robust processes and structures, identifies clear actors and their roles and responsibilities and ensures appropriate segregation of functions. These bodies must have the legal empowerment and administrative capacity to exercise their foreseen roles and tasks during the

the Member State are assessed as insufficient, the plan cannot be approved. While the Member States are primary responsible for the protection of the financial interest of the Union, the Commission is also empowered to recover the funds and/or apply financial corrections in cases of fraud, corruption and conflict of interest that have not been recovered by the Member States or in case of serious breach of the obligations contained in the financing and loan agreements.

After their assessment, the Commission concluded that all 22 RRPs adopted in 2021 have an adequate control system. However, the Commission also identified some deficiencies in 16 of them and required the Member States concerned to take additional remedial measures before the first regular payment request. The Member States concerned agreed to add the necessary measures in their respective RRPs[49]. The corresponding milestones and targets are included in the Annex of the Council Implementing Decision (CID) and they must be fulfilled prior to the first regular payment request (thus excluding pre-financing payments). Therefore, the adequacy of the control systems is further ensured before any regular payment is made to a Member State.

The Commission reviews the 'management declaration'[50] and 'summary of audits'[51] provided by the Member States with each payment request and implements ex-post audits on milestones and targets. To verify whether the milestones and targets have been satisfactorily fulfilled, the evidence provided by the Member State (in line with the Council Implementing Decision and the Operational Arrangements) is assessed by dedicated multi-DG country teams. In addition, a dedicated audit unit reviews the management declarations and summary of audits provided by the Member States with each payment request. Risk-based ex-post audits will provide additional assurance that the information provided by the Member State is correct. The Commission is empowered to recover funds if it finds ex-post that a milestone or target was not satisfactorily fulfilled.

To date, the Commission reviewed or is in the process of reviewing the management declarations and summary of audits included in the five payment requests submitted by Spain, France, Greece, Italy and Portugal. Due to the short period of time between the approval of the plans and the submission of these payment requests, the scope of the audit

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implementation of the plan. The Commission also reviews the arrangements described in the plan for the collection and availability of data on final recipients, to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds. The Commission also looks at the arrangements described in the recovery and resilience plan to avoid double funding, to determine whether they are adequate.

[49] The identified deficiencies in the Member States' control systems, included the absence of a repository system able to collect and store data as required by the RRF regulation, the absence of legal mandates for the various bodies in charge of implementing and auditing the funds, the insufficient administrative capacity of the implementing and audit bodies in charge of the implementation of the RRP, the lack of a clear audit strategy or anti-fraud measures. All these deficiencies need to be corrected before a Member State can receive its first regular payment, meaning the first payment under the RRF aside from the pre-financing payment.

[50] In the management declaration provided with the payment request, Member States must refer to the fact that the control systems in place give the necessary assurances that the funds were managed in accordance with all applicable rules - in particular rules on avoidance of conflict of interest, fraud prevention, corruption, and double funding in accordance with the principle of sound financial management.

[51] Summary of the audits conducted at national level during the implementation period.

work carried out by national authorities was in general limited. The Commission requested additional information from the national authorities in particular to assess whether data referred to in Article 22 of the Regulation were effectively collected and stored in the national system and identified a number of points to be followed up at the national level in 2022, as reflected in the Commission's preliminary assessments of the relevant payment requests.

While the primary responsibility for protection of the financial interests lies with the Member States, throughout the implementation of the plan, the Commission will carry out system audits on these Member States' monitoring and control systems. In particular, the Commission will audit the measures Member States implement to prevent, detect and correct cases of fraud, corruption, conflict of interest and double funding. This will also cover systems to collect and store data concerning beneficiaries, contractors, subcontractors, and beneficial owners. The Commission can further implement randomised and focused audits, investigate possible fraud, corruption, and conflict of interest. The Commission is empowered to recover funds or launch financial corrections if fraud, corruption or conflict of interests have been identified and not corrected by the Member States or in case Member States commit serious breaches of the obligations included in the financing and loan agreements.

4.5. Complementarity with other EU funding

For the preparation of the plans, the RRF regulation and the Commission's guidance[52] to Member States provided principles to ensure that there is no double funding of the same costs by the RRF and other EU funds. In particular, RRPs detailed the processes and structures set up at national and regional levels to ensure complementarity and coordination of the management of various EU sources of funding. They should ensure that support from the RRF will be additional to the support provided under other Union funds and programmes and that such support would not cover the same costs. RRPs should also specify projects where co-financing with other Union programmes is envisaged and indicate what is to be covered by each funding source.

In the implementation phase, Member States are required to monitor the situation and provide assurance that there is no double funding. When submitting their payment request, Member States provide a management declaration which includes a commitment to avoid double funding and reference to the monitoring and control systems in place. Also, as part of the bi-annual report Member State will provide any possible update on the use of other EU programmes for the reforms and investments covered under the approved RRP, including a specification of costs covered by those programmes in case of co-financing. The Commission is empowered to conduct appropriate checks and system audits on the basis of the information provided by the Member States.

During the preparatory phase of the RRPs, the Commission provided support to Member States to identify suitable instruments at Union level to create synergies with the measures financed under the RRF. A prominent example is the support provided under

[52] SWD(2021) 12 final.

the Technical Support Instrument and its predecessor the Structural Reform Support Programme. Notably, they will help Member States in the preparation, implementation of the RRPs. Sectoral support will also be available to Member States through the Horizon Policy Support Facility for the implementation of R&I policy reforms. For example, in the context of "Rail Baltica", RRF funding was combined with other types of support, including the Connecting Europe Facility 2.0. The overarching projects on railway infrastructure remain the same and various funds support different types of expenditure. Looking ahead, during the lifespan of the implementation of the Facility, the Commission will continue to encourage Member States to pay close attention to upcoming opportunities for synergies with other Union programmes.

Since the support under the RRF runs until 2026, the Commission assists in identifying other funding measures covering different timeframes or stages of projects. This will ensure that financing is secured even after the current lifecycle of the RRF, which is limited in time. Moreover, the Commission helped identify Union funds and programmes that are geared towards the same objective but would cover different type of measures. For example, in the area of vocational education and training, measures under the RRF would provide support for the creation of digital infrastructure and funding under the cohesion policy funds for 2021-2027 would focus on complementary investments, for example supporting vocational programmes for disadvantaged groups.

The Commission ensures that the RRF is complementary to the cohesion policy funds under the 2021-2027 programming. While the preparation period of the RRF is almost completed, the programming under the 2021-2027 MFF is ongoing. The Commission pays special attention to the link between the RRF and the funds covered by the Partnership Agreements with Member States and due to the overlapping timeframe in the negotiations, it was possible to establish synergies among these different Union instruments. In particular, most of the Member States have a clear picture on the measures included in their RRPs at this stage and can take this into account in their programming of the cohesion policy funds. This will ensure that the measures are complementary.

5. Conclusion

In the context of the Covid-19 crisis, the RRF was established in February 2021 to provide significant financial support to Member States to step up the implementation of sustainable reforms and investments and promote the Union's economic, social and territorial cohesion. By 2026, the Facility will make available EUR 672.5 billion in loans and non-repayable support to Member States, to support their reforms and investments undertaken to mitigate the impacts of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions.

A year after the establishment of the Facility, major advancements have been made and implementation is firmly on its way. The Council adopted 22 recovery and resilience plans, which account for a total of EUR 445 billion (EUR 291 billion in non-repayable financing and EUR 154 billion in loans). The Commission disbursed EUR 56.6 billion in pre-financing and EUR 10 billion in a first payment in 2021. The implementation of the Facility is now firmly running its course, with around 30 payment requests expected in 2022. The success of the "NextGenerationEU" bond and bill issuance is also a key milestone for the Union, giving the EU a powerful tool to fund the recovery and emerge from the crisis more resilient, fairer and greener.

The RRF is an innovative tool: it is a unique, demand-driven, 'performance-based' instrument, which provides direct financial support to Member States linked to the achievement of results. Funds are disbursed against the implementation by 2026 of reforms and investments designed to respond to the challenges that Member States are facing. Disbursements of RRF funds are conditional on the satisfactory fulfilment of milestones and targets – agreed ex-ante with Member States and approved by the Council for the implementation of the measures proposed by the Member States in their national recovery and resilience plans. The first payment to Spain at the end of 2021 already demonstrates the impact of the Facility in supporting the implementation of important reforms. As evidenced in this report, the reforms and investments supported by the Facility respond to Member States' specific challenges and contribute to policy areas of key relevance for the future of the Union (the 'six pillars'). They will contribute to the Union's ambitious policy agenda to steer a sustainable, fair and inclusive recovery and to make the EU's economy more resilient to future shocks, while transforming EU economies and societies in line with the ambition of the twin transitions, and the European Pillar of Social Rights.

The value added of the instrument is already tangible. The implementation of the Facility is also triggering positive spillover effects across the Union and supports economic convergence. Last but not least, the Facility supports the implementation of multi-country projects of key relevance for the Union, demonstrating as well the 'additionality' of EU funds. The progress made in the implementation of the recovery and resilience plans and the disbursement of the Facility can be tracked live on a public online platform, the Recovery and Resilience Scoreboard, which displays the progress achieved for each milestone and target.

The Commission is committed to the implementation of the RRF being a shared success for all Europeans. To that end, the Commission will continue to do its utmost to involve all relevant stakeholders for a successful implementation of the plans and will maintain its close engagement with the European Parliament and the Council all along the implementation of the Facility.

ANNEX

State of play overview

	Official submission	COM's positive assessment	Council adoption	1st pre-financing paid	OA signed	Payment request submission	Payment
Austria	30 April	21 June	13 July	28 September (EUR 450 million)			
Belgium	30 April	23 June	13 July	3 August (EUR 770 million)			
Bulgaria	15 October						
Cyprus	17 May	8 July	28 July	9 September (EUR 157 million)			
Czech Republic	1 June	19 July	8 September	28 September (EUR 915 million)			
Denmark	30 April	17 June	13 July	2 September (EUR 201 million)			
Germany	28 April	22 June	13 July	26 August (EUR 2.25 billion)			
Estonia	18 June	5 October	29 October	17 December (EUR 126 million)			
Greece	27 April	17 June	13 July	9 August (EUR 4 billion)	21 December	29 December	
Spain	30 April	16 June	13 July	17 August (EUR 9 billion)	10 November	11 November	27 December (EUR 10 billion)
Finland	27 May	4 October	29 October	21 January 2022 (EUR 271 million)			
France	28 April	23 June	13 July	19 August (EUR 5.1 billion)	25 November	26 November	
Croatia	14 May	8 July	28 July	28 September (EUR 818 million)	9 February		
Hungary	11 May						
Ireland	28 May	16 July	8 September	Has not requested pre-financing			
Italy	30 April	22 June	13 July	13 August (EUR 24.9 billion)	22 December	30 December	

Latvia	30 April	22 June	13 July	10 September (EUR 237 million)	16 February		
Lithuania	14 May	2 July	28 July	17 August (EUR 289 million)			
Luxembourg	30 April	18 June	13 July	3 August (EUR 12.1 million)			
Malta	13 July	16 September	5 October	17 December (EUR 41.1 million)			
Netherlands							
Poland	3 May						
Portugal	22 April	16 June	13 July	3 August (EUR 2.2 billion)	18 January	25 January	
Romania	31 May	28 September	29 October	2 December (EUR 1.8 billion)			
Slovakia	29 April	21 June	13 July	13 October (EUR 823 million)	16 December		
Slovenia	30 April	1 July	28 July	17 September (EUR 231 million)			
Sweden	28 May						