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German Recovery and Resilience Plan

Executive Summary

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April 2021

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General objectives of the plan

The coronavirus pandemic plunged Europe into the **deepest economic and social crisis** in decades. Real GDP fell by 6.2% in 2020, meaning that the recession in the EU was even more severe than during the global financial crisis. Germany, too, was hard hit by the pandemic.

After it became apparent in March 2020 that coronavirus infections were growing at an exponential rate, the German government very swiftly came up with a two-pronged response to the health and social crisis:

- First, the federal government reached a joint agreement with the *Länder* to impose a temporary lockdown. Large parts of the retail, restaurant, accommodation, personal services and leisure sectors were closed on a temporary basis. Schools and care facilities had to close.
- Second, the government established a financial safety net for companies and jobs. Among other things, it expanded the rules for short-time work benefit and made comprehensive liquidity assistance available to companies in the form of guarantees, loans and grants.

Thanks to this **fast and decisive action**, it was possible to prevent the health system in Germany from being overwhelmed and to ensure there was always sufficient capacity available in intensive care units. At the same time, the German government successfully managed to protect employees in Germany from serious financial losses, prevent a wave of bankruptcies and safeguard the livelihoods of self-employed individuals.

The EU also responded to the crisis quickly and vigorously with far-reaching measures. The **Recovery and Resilience Facility (RRF)** with a volume of €672.5 billion is the central instrument of the temporary European recovery programme “Next Generation EU”. The funds from the RRF are intended to support the economic recovery while at the same time

strengthening the resilience of the EU and making it more future-proof by means of reforms and investments. This will also advance the green and digital transition in particular. According to estimates based on the European Commission's economic forecast (autumn 2020), Germany is entitled to grants of around €23.641 billion from the RRF (in prices of 2018). Calculated at current prices, the RRF funds for Germany amount to €25.619 billion.

Spent properly, the funds will not only strengthen the forces of economic growth in the EU and its Member States, but will also enhance social cohesion within Europe. Before and during the German EU Council Presidency, the German government played a decisive role in the creation of the RRF. It is therefore even more important to the German government that the RRF is implemented successfully.

The RRF is designed as a **one-off instrument to overcome the effects of the coronavirus pandemic**, including in the way it is financed through loans issued by the EU. Its duration, volume and scope are subject to clear limits, and it is targeted exclusively at dealing with the current crisis.

The RRF's scope includes policy areas of European importance, which are divided into six pillars:

1. Green transition
2. Digital transformation
3. Smart, sustainable and inclusive growth
4. Social and territorial cohesion
5. Health, economic, social and institutional resilience
6. Policies for the next generation, children and youth

The German government expressly welcomes the RRF's objectives, which are aimed at leading the European economy out of the recession caused by the pandemic while at the same time creating strong impetus for important forward-looking investment and reform measures. **Investment in climate action and the digital transformation** are of particular importance in this regard. The German government's central instrument for these

purposes is its **economic stimulus programme**, which was adopted in June 2020 and comprises **the economic stimulus and crisis management package and the future technologies package**. With the programme, the German government made available around €205 billion¹ in the federal budgets for 2020 and 2021 for short-term economic stimulus and investments with a long-term impact. Here, too, the focus is on climate action and the digital transformation. In the context of the **German Recovery and Resilience Plan (GRRP)**, of particular relevance are those measures with which the German government is setting a new long-term course for greater investment in forward-looking technologies and in protecting the health of the population.

Components of the GRRP

In addition to selected measures in the economic stimulus programme, the German government also intends to use the resources provided by the RRF for **additional measures**.

These include, in particular, the three **Important Projects of Common European Interest (IPCEI)** jointly initiated by Germany and France in the areas of hydrogen, microelectronics and communication technologies, and cloud and data processing. These projects have been launched at the Franco-German technology dialogue on 13 October 2020 and are open to all other EU Member States. The German government is convinced that these projects, as part of the GRRP, will make an important contribution to international cooperation on technology in fields that are central to the future of the EU. This is because combining joint innovative capacities and laying the groundwork for future-proof jobs are important preconditions for strengthening **sustainable growth and social security** in Europe.

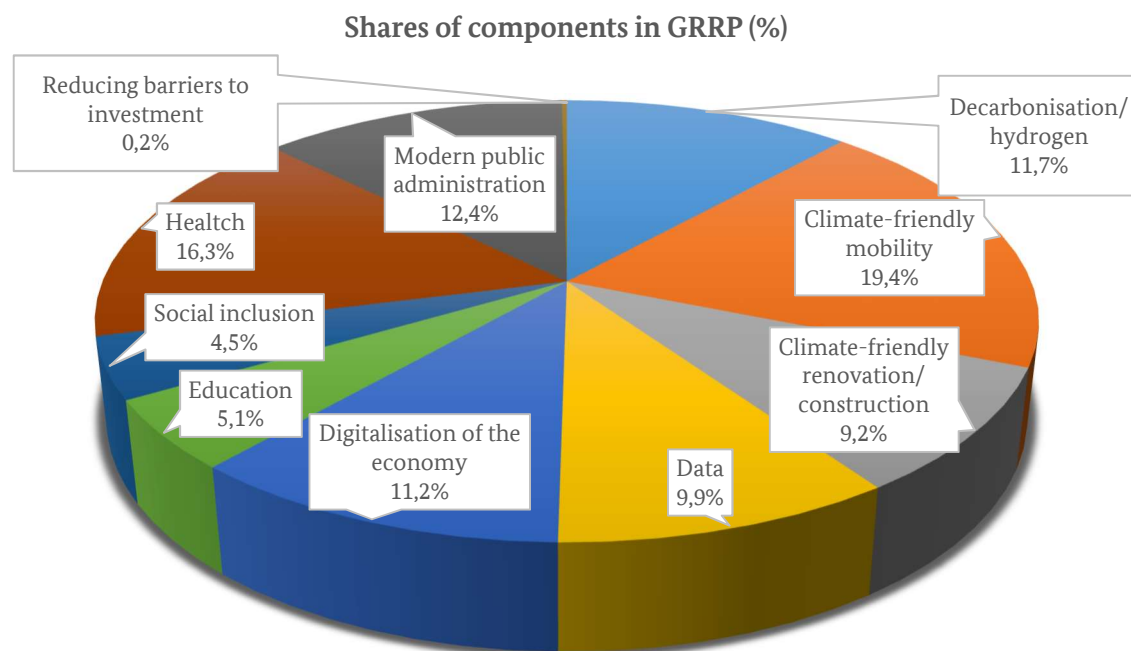
¹ In terms of total budget for 2020 and 2021 (in the version of the supplementary budget for 2021 adopted by the German Bundestag).

The GRRP, which has a total volume of almost €28 billion, consists of 40 measures from six priority areas. The priority areas are in line with the goals of the RRF and address the challenges included in the scope of the six above-mentioned pillars².

GRRP priority areas:

1. Climate policy and the energy transition
2. Digitalisation of the economy and infrastructure
3. Digitalisation of education
4. Strengthening of social inclusion
5. Strengthening of a pandemic-resilient healthcare system
6. Modern administration and reducing barriers to investment

Structure of the German Recovery and Resilience Plan by components



² For a detailed qualitative and quantitative analysis of the DARP measures with a view to the RRF's goals, see also GRRP Part 4: Impact Assessment and Annex 1 of the GRRP: DIW Expert Report.

1. Climate policy and the energy transition

The first priority – the most important priority in quantitative terms with around 40% of the GRRP’s total financial volume – is **climate policy and the energy transition**. Germany and Europe face major challenges in the area of climate action. Large-scale global decarbonisation is essential in order to halt anthropogenic climate change and preserve the biodiversity of our planet. Achieving decarbonisation without a decline in quality of life, and linking it to new impetus for value creation and employment on the road to the post-fossil age, are some of the most important tasks of economic policy. Climate-related spending makes up some 40% of the spending in the GRRP. Hence, the German government is clearly fulfilling the EU’s ambitious target of at least 37% of RRF funds being allocated to climate action.

The most important GRRP measures in the area of climate action and the energy transition are first of all structural reforms for, and massive investments in, the **development of a well-functioning hydrogen economy**. Germany will use the GRRP resources to expand hydrogen research and to facilitate the transition to the hydrogen economy for companies. With the hydrogen IPCEI, Germany and France intend to pursue a) the building up of large-scale electrolysis capacity for producing green hydrogen, b) the development of infrastructure for transporting hydrogen, c) the development of a European value-added chain for fuel cell systems, among other things, and d) the creation of refuelling infrastructure for hydrogen. A new initiative in this context is the innovative approach of carbon contracts for differences. As a market-based instrument, these are intended to compensate for the higher operating costs of innovative climate technologies during the transition phase, helping the technologies to reach market maturity.

Second, Germany will use the GRRP resources to implement additional measures for **climate-friendly mobility**. In addition to fuel cells, electric mobility plays a key role in this regard. Germany will therefore promote, in particular, purchases of electric cars, buses and rail vehicles by means of additional purchasing incentives and will advance the expansion of charging infrastructure.

Third, the German government will use the GRRP to introduce measures to support **environmentally friendly construction and renovation**. A comprehensive federal programme will promote the renovation and construction of private and public buildings with an energy efficiency level that is significantly higher than the minimum legal standards. A support worth €2.5 billion will be provided for the renovation of residential housing via the GRRP. As a result, the building renovation programme is one of the biggest single measures in the GRRP. There is also large potential for reducing CO₂ emissions in the future through the increased use of wood as a building material.

All of these measures lie within the scope of the RRF's first pillar (green transition). They support the EU's goal to become carbon-neutral by the middle of the century and are in line with the European Green Deal and the RRF's ambition to contribute to preserving biodiversity. The GRRP measures contribute to the green transition, taking into consideration the Taxonomy Regulation's six climate and environmental objectives. For each investment and reform, it is ensured that the "do no significant harm" principle is complied with and effectively implemented for all six climate and environmental objectives, expressly also including biodiversity.

At the same time, the measures will contribute to a greener Europe with lower CO₂ emissions, which is one of the investment priorities of EU cohesion policy (pillar 4). By promoting energy efficiency and access to renewable energy sources, the measures will also help to strengthen economic resilience (pillar 5).

2. Digitalisation of the economy and infrastructure

Data-driven innovation and a successful **digital transformation** are of crucial importance to ensure that Germany and Europe are ready for the future. The second and third GRRP priority areas focus on the digitalisation of the economy and infrastructure and digitalisation in the education system. However, the issue of digitalisation pervades all the components of the GRRP. In total, over 50% of GRRP expenditure contributes to the digital transformation. Hence, the European minimum expenditure level of 20% is exceeded by a large margin. The clear focus on digital issues underlines Germany's ambition to emerge from the crisis stronger. The successful digitalisation of the economy and society will in

the future be an even more important factor for success in the international competition to attract businesses and investment. In order to be able to compete with locations in Asia and North America, Europe needs to achieve a leap forward in the area of digitalisation.

In Germany, the federal government's **data strategy** will make an important contribution in this respect. The strategy will promote data-driven innovations and enhance the provision and responsible use of data. The cloud and data processing IPCEI focuses on Europe's **digital sovereignty** in the context of data processing. The aim is to create the basis for a sovereign, highly scalable edge cloud infrastructure in Europe. To this end, sovereignty and control over cloud-based applications is necessary, in addition to control over data processing. This enables self-determination regarding the tools being used as well as their operation and innovation. The infrastructure will build on highly innovative, real-time-capable structures distributed across Europe and will be operated in a way that is highly efficient and saves energy. The IPCEI on microelectronics and communication technologies also supports the goal of digital sovereignty. It was initiated by Germany and France with the aim of catching up in those fields of microelectronics where Europe has so far been dependent on imports from other countries. Hence, both of these IPCEIs explicitly support the RRF's objective of **strengthening the resilience of critical value chains** in the EU.

3. Digitalisation of education

Education (including basic and further education and training) is of central importance for long-term potential growth and wealth creation. The COVID-19 crisis has revealed, not for the first time, that Germany is facing considerable challenges in the field of digital literacy in particular. This concerns both device infrastructure and platforms as well as the competences that are required to use them. The **digital education initiative** will help to exploit the opportunities and potential that digitalisation offers to individuals and society, create equal educational opportunities irrespective of family background or ethnic origin, and promote the future labour market success of all young people. Germany will therefore use the resources provided by the RRF in a targeted manner to prepare workers for the

digital transition and actively support structural change, thereby increasing **social and territorial cohesion**.

The majority of the measures included in these GRRP priority areas lie within the scope of the RRF's second pillar (digital transformation); however the third (smart and inclusive growth), fourth (social cohesion), fifth (resilience) and sixth (next generation) pillars are also addressed.

4. Strengthening social inclusion

The COVID-19 crisis has highlighted the importance of **social cohesion** in overcoming serious crises. Although Germany has a strong sense of community and high levels of social protection, the COVID-19 pandemic has made it clear that the hardest-hit and most vulnerable groups require targeted support. In addition, Germany has to deal with an increasingly ageing population. In just a few years, the ratio between individuals of working age and those of retirement age will shift massively.

Therefore, the goal of the GRRP's fourth priority area is to strengthen **social inclusion**, in particular by ensuring conditions for participation in the labour market and by ensuring that the pension system is sustainable while simultaneously securing adequate pensions. To prevent a rise in non-wage labour costs as a result of the COVID-19 pandemic, the German government has declared a "social guarantee" for 2021, which will stabilise social security contributions at a maximum of 40% by covering costs that exceed this threshold from the federal budget. This will protect workers' net incomes and enhance the competitiveness of companies. The additional measures in the GRRP will have the effect of strengthening social inclusion mainly in the medium to long term. The massive expansion of childcare infrastructure, the legal requirement for publicly listed companies to appoint more women to their boards, and the digital pensions overview will all serve to cushion the impact of demographic change. The reform measures contained in these components will also help to support vulnerable groups that are particularly affected by the COVID-19 pandemic. A programme to support pupils with learning difficulties is of significant importance in this regard.

The measures included in this component will implement key **country-specific recommendations** directed at Germany and also address the third (inclusive growth), fourth (cohesion), fifth (social resilience) and sixth (next generation) pillars of the RRF. Around one tenth of the expenditure under the GRRP will be invested in the areas of education and qualifications for children and young people.

5. Strengthening a pandemic-resilient healthcare system

The GRRP's fifth priority area is **strengthening a pandemic-resilient healthcare system**. The German government wishes to support, inter alia, the Pact for the Public Health Service as part of the GRRP. This includes strengthening the public healthcare system in terms of staffing and with regard to digital and technical aspects. The programme to future-proof hospitals aims to support necessary investments in modern emergency capacity and better digital infrastructure. With a volume of €3 billion, this is the largest individual measure in the GRRP (along with the Online Access Act (*Onlinezugangsgesetz*)). By funding the accelerated research and development of urgently needed vaccines against SARS-CoV-2, the GRRP will also contribute to urgent efforts to fight the pandemic.

This component addresses the RRF's fifth pillar, according to which the coronavirus pandemic and the resulting recession must be overcome quickly and vigorously. Through the use of digitalisation and the expansion of R&D capacities, this priority also promotes cohesion (pillar 4) due to its contribution to a more intelligent Europe.

6. Modern public administration and reducing barriers to investment

The sixth priority – which is key with a view to the coherence of investments and reforms – is **reducing barriers to investment** in Germany, in particular by means of a **modern public administration**. In Germany, the state is effective and capable of taking action during the crisis. Nevertheless, experience has shown that public and private investment is delayed due to time-consuming administrative and approval procedures.

The Online Access Act will create a nationwide system of digital administrative services in Germany. This ambitious reform aims, in particular, to digitalise 575 administrative

services in a way that is user-friendly and legally sound. As many local authorities as possible will be connected to the system. Together with the GRRP measures to reduce bureaucracy, this will lead to a situation where administrative and approval procedures can be provided faster and in a more citizen-friendly way.

Also of note in this context is the planned expansion of the consulting services provided by the agency Partnerschaft Deutschland – Berater der öffentlichen Hand GmbH (PD). As a consulting company for public-sector clients, PD has a relevant consulting mandate for issues relating to modern administration and investment projects. The measure is aimed in particular at local authorities, which in the context of the GRRP will implement measures in the areas of education, infrastructure investments, digitalisation, climate action and climate-friendly mobility, as well as the strengthening of pandemic-resilient health systems. PD's consulting services are targeted in particular at tailoring support programmes to requirements more effectively, by integrating subsidy recipients more closely. In this way, barriers to investment that arise due to the design of the support guidelines by the funding authorities can be effectively and sustainably reduced. In addition, the objective is to further boost and accelerate the expansion of local educational infrastructure in the area of information and communication technology by means of targeted consulting services.

These measures address the RRF's third pillar (growth) in particular and implement a key country-specific recommendation directed at Germany, namely reducing barriers to investment. In addition, the measures support institutional resilience (pillar 5) and contribute to a more intelligent Europe with a view to EU cohesion policy (pillar 4).

Investment and Reform Measures in the GRRP

Component	Investment/Reform	Vol. in million €
1.1 Decarbonisation solutions using renewable hydrogen in particular	1.1.1 Hydrogen projects within the framework of IPCEI	1,500
	1.1.2 Funding programme for decarbonisation in industry	449.288
	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	550
	1.1.4 Projektbezogene Forschung (Klimaschutzforschung)	60
	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	700
1.2 Climate-friendly mobility	1.2.1 Subsidies for the construction of filling and charging infrastructure	700
	1.2.2 Electromobility funding guideline	75
	1.2.3 Innovation premium to promote sales of electrically powered vehicles	2,500
	1.2.4 Extension of first registration period for the granting of 10 year tax exemption for purely electric vehicles	295
	1.2.5 Promotion of purchases of buses with alternative drive systems	1,085
	1.2.6 Subsidies to fund alternative drive systems in rail transport	227
	1.2.7 Funding for the vehicle and supplier industry for hydrogen and fuel cell applications in transport	545.9
1.3 Climate-friendly renovation and construction	1.3.1 Development of climate-friendly timber construction	20
	1.3.2 Local authority living labs for the energy transition	57
	1.3.3 CO2 building renovation: federal funding for energy-efficient buildings	2,500
2.1 Data as the raw material of the future	2.1.1 Innovative data policy for Germany	516
	2.1.2 IPCEI Microelectronics and communication technologies	1,500
	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI-CIS)	750
2.2 Digitalisation of the economy	2.2.1 Investment programme for vehicle manufacturers/supplier industry	1,898.5
	2.2.2 Federal programme "Continuing education and training networks"	38
	2.2.3 Bundeswehr Digitalisation and Technology Research Centre (DTEC.Bw)	700

	2.2.4	Promotion of digitalisation of the railways through replacement of conventional signal boxes/fast track programme to accelerate the roll out of "Digital Rail Germany"	500
3.1 Digital education offensive	3.1.1	Teacher devices	500
	3.1.2	Education platform	630
	3.1.3	Educational centres of excellenc	205
	3.1.4	Modernisation of the Bundeswehr's educational and training facilities	100
4.1 Strengthening of social inclusion	4.1.1	Special fund "Child-day-care expansion" – Investment programme "Child-care financing" 2020/21	500
	4.1.2	Social Guarantee 2021	
	4.1.3	Trainee support	725
	4.1.4	Reform program "Supporting students with pandemic learning delays" under the "Catching up to Corona Action Program for Children and Youth for 2021 and 2022."	
	4.1.5	Digital pensions overview	34.3
5.1 Strengthening of a pandemic-resilient healthcare system	5.1	Strengthening the digital and technical resources of the public health service	813.920
	5.2	Programme to futureproof hospitals	3,000
	5.3	Special programme for acceleration of research and development of urgently needed vaccines against SARS-CoV-2	750
6.1 Modern public administration	6.1.1	European identity ecosystem	200
	6.1.2	Digitalisation of administration – implementation of the Online Access Act	3,000
	6.1.3	Digitalisation of administration – implementation of the modernisation of registers (Register Modernisation Act (Registermodernisierungsgesetz), RegMoG)	274.974
6.2 Reducing barriers to investment	6.2.1	Joint programme of the federal government and the Länder for an efficient administration that benefits citizens and businesses	
	6.2.2	Expansion of the consulting services of "PD - Berater der öffentlichen Hand GmbH" within the framework of the IBA	50
	6.2.3	Acceleration of planning and approval procedures in the transport sector	
Total volume:			27,949.882

Coherence of Reform and Investment in the GRRP

The measures contained in the GRRP constitute a coherent package of investments and reforms in their own right. At the same time, they should not be considered in isolation. After all, these recovery and reform measures only comprise one part of the very comprehensive agenda with which the German government has reacted to the challenges of the COVID-19 crisis and to long-term challenges. The economic stimulus programme by itself contains measures affecting finances totalling at are around five times the size of the measures in the GRRP. Please refer to the German government's 2021 Annual Economic Report for a detailed description of all the federal government's economic policy measures.

A comprehensive overview of the economic and fiscal measures, which support the implementation of the country-specific recommendations directed at Germany is **contained in the National Reform Programme (NRP) and the German Stability Programme**. These reports are part of the European Semester and, like the GRRP, were also submitted to the Commission in April 2021.

GRRP and EU Flagship initiatives

In line with the requirements of the Regulation establishing a Recovery and Resilience Facility, the GRRP also includes a macroeconomic impact assessment. This was produced by the German Institute for Economic Research (DIW) independently of the German government. Model-based analyses of this type are always characterised by a high degree of uncertainty. This notwithstanding, the DIW concluded that the GRRP measures will have a substantial macroeconomic effect. According to their study, in the long term GDP may be almost 2% larger, and employment around ½% higher, than in scenarios excluding the GRRP measures.

The GRRP measures have to be seen in the context of the EU flagship initiatives. For example, the digital education initiative will make a significant contribution to the EU flagship *Reskill and upskill*. Component 4.1 enhances social inclusion and contributes to three flagship initiatives: *Renovate, Modernise and Reskill and upskill*. The priority area of

reducing barriers to investment in Germany, in particular by means of a modern public administration, contributes to the EU flagship *Modernise*. Overall, the German Recovery and Resilience Plan will make an important contribution to the EU flagships *Connect*, *Modernise*, *Scale-up* and *Reskill and upskill* (please refer to GRRP Chapter 1.2: Links with the European Semester for more details).




Allocation of the GRRP components to the six pillars of the RRF Regulation, European Pillar of Social Rights (EPSR)

Priority/component	RRF pillars*						EPSR ¹
	1	2	3	4	5	6	
1: Strategy for climate policy and the energy transition							
1.1. Decarbonisation using renewable hydrogen in particular	✓			✓	✓		
1.2. Climate-friendly mobility	✓			✓	✓		
1.3. Climate-friendly renovation and construction	✓			✓	✓		
2: Digitalisation of the economy and infrastructure							
2.1. Data as the raw material of the future	✓	✓		✓	✓		
2.2. Digitalisation of the economy	✓	✓		✓	✓		
3: Digitalisation of education							
3.1. Digitalisation of education		✓		✓	✓	✓	
4: Strengthening of social inclusion							
4.1. Strengthening of social inclusion			✓	✓	✓	✓	
5: Strengthening of a pandemic-resilient healthcare system							
5.1. Strengthening of a pandemic-resilient healthcare system				✓	✓		
6: Modern public administration and reducing barriers to investment							
6.1. Modern public administration			✓	✓	✓		
6.2. Reducing barriers to investment	✓		✓	✓	✓		

* The six pillars of Article 3 of the European Commission Regulation (2021) comprise (1) green transition, (2) digital transformation, (3) smart, sustainable and inclusive growth, (4) social and territorial cohesion, (5) health, economic, social and institutional resilience, and (6) policies for the next generation, children and youth. See the DIW impact assessment in GRRP Annex for details of the qualitative assessment.

¹ European Pillar of Social Rights; see the DIW impact assessment in GRRP Annex for details of the qualitative assessment. The Social Scoreboard is divided into three dimensions:

- SR i: Equal opportunities and access to the labour market
- SR ii: Dynamic labour markets
- SR iii: Fair working conditions, social protection and inclusion

	1 point on the DIW scale
	2 points on the DIW scale
	3 points on the DIW scale