EUROPEAN
COMMISSION

Brussels, 22.6.2021
COM(2021) 341 final

ANNEX

ANNEX

to the

Proposal for a Council Implementing Decision

on the approval of the assessment of the recovery and resilience plan for Germany

{SWD(2021) 163 final}

ANNEX

Contents

A. COMPONENT 1.1: DECARBONISATION USING RENEWABLE HYDROGEN IN PARTICULAR 2
B. COMPONENT 1.2: CLIMATE-FRIENDLY MOBILITY 10
C. COMPONENT 1.3: CLIMATE-FRIENDLY RENOVATION AND CONSTRUCTION 18
D. COMPONENT 2.1: DATA AS THE RAW MATERIAL OF THE FUTURE 22
E. COMPONENT 2.2: DIGITALISATION OF THE ECONOMY 28
F. COMPONENT 3.1: DIGITALISATION OF EDUCATION 36
G. COMPONENT 4.1: STRENGTHENING OF SOCIAL INCLUSION 43
H. COMPONENT 5.1: STRENGTHENING OF A PANDEMIC-RESILIENT HEALTHCARE SYSTEM 49
I. COMPONENT 6.1: MODERN PUBLIC ADMINISTRATION 55
J. COMPONENT 6.2: REDUCTION OF BARRIERS TO INVESTMENT 60

SECTION 1: REFORMS AND INVESTMENTS UNDER THE RECOVERY AND RESILIENCE PLAN

1. Description of Reforms and Investments

A. COMPONENT 1.1: DECARBONISATION USING RENEWABLE HYDROGEN IN PARTICULAR

The component of the German recovery and resilience plan addresses the challenge of climate change mitigation by aiming to reduce greenhouse gas (GHG) emissions in the economy. The objectives of the component are to support the use of hydrogen produced with energy from renewable sources and to contribute as a primary goal to GHG emission reduction as defined in the German NECP, with a focus on industry. The component also seeks to make a contribution in terms of industrial innovation and employment policy.

The component supports addressing the Country Specific Recommendation on investment in the green transition and constitutes one building block in the design of a clean, efficient and integrated energy system (Country Specific Recommendation 2 in 2019 and Country Specific Recommendation 1 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

A.1. Description of the reforms and investments for non-repayable financial support

1.1.1 Investment: Hydrogen projects within the framework of IPCEIs

The objective of the planned hydrogen Important Projects of Common European Interest (IPCEIs)[1] is to accelerate the necessary market uptake of hydrogen and its derivatives to decarbonise emission-intensive processes and develop new areas of application in Germany and in Europe.

The measure consists of financial support that shall be given to integrated projects along the entire value chain through planned IPCEIs on hydrogen. As regards production, the planned IPCEIs shall focus on building large electrolysis capability to produce renewable hydrogen in locations where sufficient renewable electricity is available. Within this framework, up to 500 MW of electrolysis capability is expected to be built. As regards infrastructure, they are expected to contribute to building German and European hydrogen transport and storage infrastructure.

The implementation of the investment shall be completed by 31 August 2026.

1.1.2 Investment: Funding programme for decarbonisation in industry

The objective of the measure is to help industry shift from highly emission-intensive production processes to low GHG processes. More precisely, it seeks to help

[1] IPCEIs are subject to the notification requirement and stand-still obligation in Article 108(3) of the Treaty on the Functioning of the European Union. The selection and specificities of the proposed projects may require adjustments to ensure compliance with the applicable State aid rules.

businesses address the challenges of the transition, which lie in particular in the high costs and economic risk of developing climate-neutral technologies.

Support shall be given to research and development, testing in experimental or pilot plants and investments in installations for the application and implementation of measures on an industrial scale. The support shall be granted in the form of a partial investment grant. The measure targets companies in energy-intensive industries with GHG emissions emanating from the production process covered by the EU emissions trading scheme (in particular steel, cement, lime, chemicals, non-ferrous metals, glass and ceramics). Only projects resulting in emissions substantially below the EU Emissions Trading System benchmarks shall be eligible for support under the measure[2].

The implementation of the measure shall be completed by 31 August 2026. In addition, Germany is planning to prolong the measure beyond 2026 with funding under its national budget.

1.1.3 Investment: Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference

The objective of the measure is, as for measure 1.1.2, the introduction of new, cleaner production technologies for energy-intensive industries. The specific objective of the measure is to provide businesses with financial certainty when they make significant investments in climate-neutral technologies and to reduce on a permanent basis process-related GHG emissions which are difficult to avoid under the current state of the art of technologies.

Climate action contracts shall be signed between the state and energy-intensive industries to cushion the higher operating costs of innovative technologies. These contracts shall guarantee a fixed CO_2 price over a fixed duration for companies investing in CO_2 reduction technologies. The programme is expected to be aimed primarily at companies in the steel, chemical and building materials industries where process emissions are particularly difficult to avoid. Only projects resulting in emissions substantially below the ETS benchmarks shall be eligible for support under the measure[3].

The implementation of the investment is expected to start by 31 December 2021 and shall be completed by 31 August 2026. In addition, Germany is planning to prolong the measure beyond 2026 with funding under its national budget.

1.1.4 Investment: Project-related climate protection research

Like other measures from this component, the aim of this measure is to contribute to the general goal of decarbonising the economy in line with the 2050 targets but with a stronger focus on SMEs and basic industries.

Collaborative projects shall be supported in the three areas: (i) climate protection in the industry, (ii) SME innovation and (iii) climate resilience. The first area shall

---

2 Where the activity supported achieves projected greenhouse gas emissions that are not substantially lower than the relevant benchmarks an explanation of the reasons why this is not possible should be provided. Benchmarks are established for free allocation for activities falling within the scope of the Emissions Trading System, as set out in the Commission Implementing Regulation (EU) 2021/447.

3 Where the activity supported achieves projected greenhouse gas emissions that are not substantially lower than the relevant benchmarks an explanation of the reasons why this is not possible should be provided. Benchmarks are established for free allocation for activities falling within the scope of the Emissions Trading System, as set out in the Commission Implementing Regulation (EU) 2021/447

focus on climate protection in the basic materials industry with the aim of promoting industrial research and development of new processes that prevent GHG emissions. The second area of focus shall consist in SME innovation support measures contributing to climate change mitigation and energy efficiency. Lastly, the third area shall focus on support measures for climate resilience projects by municipalities and local businesses associated with research partners (universities and non-university research institutes).

The implementation of the investment shall be completed by 31 December 2025.

1.1.5 Investment: Flagship projects for research and innovation in the context of the National Hydrogen Strategy

This measure contributes to the general objective of decarbonising the economy and shall focus specifically on addressing key issues related to the provision of green hydrogen in the future energy system.

On the research side, a first flagship initiative shall address the challenges of serial production of water electrolysers. A second flagship initiative shall focus on the integrated direct offshore production of hydrogen and its derivatives at sea using offshore wind energy. A third flagship initiative shall explore and assess the potential of hydrogen transport technologies.

The implementation of the measure shall be completed by 31 August 2026.

A.2. Milestones, targets, indicators and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
1	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Completion of expression of interest procedure	Companies have submitted project sketches	-	-	-	Q2	2021	The expression of interest procedure has been completed. Potential projects and project participants in Germany have been identified.
2	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Issuance of first grant decisions	Grant decisions issued	-	-	-	Q1	2022	Grant award decisions have been issued to beneficiaries/applicants by the Ministry for Economic Affairs and Energy (BMWi), Ministry of Transport and Digital Infrastructure (BMVI), Ministry of the Environment (BMU), enabling the start of the implementation of the selected projects.
3	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Commitment of at least EUR 500 000 000	-	EUR million	0	500	Q2	2024	At least EUR 500 000 000 have been committed to hydrogen projects in line with grant decisions issued.
4	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Evaluation of the support programme	First evaluation report (interim report) published	-	-	-	Q4	2025	The evaluators have provided a first evaluation report, which shall contain an initial assessment of the direct and indirect effects of the aid and an assessment of the appropriateness and proportionality of the support measure. The evaluation report shall notably assess the success towards the development of

										electrolytic capabilities, their systemic integration into the energy system (avoidance of network bottlenecks), the development of demand-driven infrastructure, implementation of hydrogen decarbonisation technologies. The evaluators shall also assess the success of the hydrogen technology market uptake and to what extent it is relevant to the energy system and needs. The evaluation shall be contracted out to external and independent evaluators.
5	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Commitment of EUR 1 500 000 000	-	EUR million	0	1 500	Q3	2026	At least EUR 1 500 000 000 have been committed to hydrogen projects in line with grant decisions issued.
6	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Creation of at least 300 MW of electrolysis capacity		Megawatt	0	300	Q3	2026	At least 300 MW of electrolysis capabilities shall be created.
7	1.1.2 Support programme for decarbonisation in industry	Milestone	Entry into force of funding guideline (*Förderrichtlinie*) for decarbonisation in industry	Entry into force of funding guideline	-	-	-	Q1	2021	The guideline has entered into force, enabling companies to submit applications.
8	1.1.2 Support programme for decarbonisation in industry	Target	Issuance of grant decisions	-	Number	0	20	Q4	2024	Grant decisions have been issued to beneficiaries/applicants, enabling the start of the implementation of the selected projects.
9	1.1.2 Support programme	Target	Disbursement to the supported	-	EUR million	0	426,823	Q3	2026	Of the EUR 449 288 000 allocated to the measure, at least EUR 426 823 000 of

	for decarbonisation in industry		projects							funds committed to the selected projects have been disbursed to the beneficiaries.
10	1.1.2 Support programme for decarbonisation in industry	Target	Reduction of greenhouse gas emissions in industry	-	Million tonnes of CO_2 equivalent (annual avoidance)	0	1	Q3	2026	The measure has led to the avoidance of at least 1 million tonnes of CO_2 equivalent in 12 consecutive months in 2025/2026, as evidenced by the interim/final reports sent by beneficiaries to the project promoter. The reports shall indicate how many greenhouse gas emissions (GHG) have been avoided by the implemented projects, compared to the GHG emissions that would have occurred without the intervention. The overall GHG emissions reduction achieved by the measure shall be summarised in a separate report.
11	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Milestone	Completion of expression of interest procedure for climate change contracts	Companies submit expressions of interest for climate change contracts to Ministry of the Environment (BMU)	-	-	-	Q4	2021	The expression of interest procedure has been completed, with companies having expressed their interest in receiving support for their projects through climate change contracts and projects having been selected.
12	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Milestone	Funding guideline (*Förderrichtlinie*) for a pilot programme on climate change contracts based on the principle of Carbon Contracts for Difference	Entry into force of funding guideline	-	-	-	Q3	2022	The guideline for a pilot programme on climate change contracts based on the principle of Carbon Contracts for Difference has entered into force, enabling companies to submit applications.

13	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Target	Disbursement to the supported projects	-	EUR million	0	522,5	Q3	2026	Of the EUR 550 000 000 allocated to the measure, at least EUR 522 500 000 of funds committed to the selected projects have been disbursed to the beneficiaries.
14	1.1.4 Project-related climate protection research	Target	Approval of applications for support of climate-related research projects	-	Number of applications approved	0	45	Q4	2021	The climate-related research projects selected under the call for tender have been approved for funding.
15	1.1.4 Project-related climate protection research	Target	Disbursement to the supported projects	-	EUR million	0	57	Q4	2025	Of the EUR 60 000 000 allocated to the measure, at least EUR 57 000 000 of funds committed to the selected projects have been disbursed to the beneficiaries.
16	1.1.4 Project-related climate protection research	Target	Completion of supported climate-related research projects	-	Number	0	45	Q4	2025	Projects have been completed, as evidenced by the submission of the final report.
17	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Milestone	Publication of the competition “Idea Competition ‘Hydrogen Republic Germany’” (Förderaufruf zum Ideenwettbewerb „Wasserstoffrepublik Deutschland“)	Publication of the competition on the Ministry of Education and Research‘s homepage	-	-	-	Q2	2020	The competition, including the eligibility conditions, has been published on the homepage of the Ministry of Education and Research and opened for applications.
18	1.1.5 Flagship projects for research and	Target	Issuance of grant decisions	-	Number of grant decisions	0	150	Q2	2022	Grant decisions have been issued to beneficiaries/applicants, enabling the start of the implementation of the selected

	innovation in the context of the National Hydrogen Strategy				issued					projects.
19	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Completion of the supported projects	-	Number	0	150	Q3	2026	The projects have been completed, as evidenced by the availability of the official final report. These reports shall describe in detail the results achieved and compare them with the objectives set.
20	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Disbursement to the supported projects	-	EUR million	0	560	Q3	2026	Of the EUR 700 000 000 allocated to the flagship projects, at least EUR 560 000 000 have been disbursed to beneficiaries. Calculation based on actual payments made.
21	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Commitment for flagship research and innovation projects	-	EUR million	0	665	Q3	2026	Of the EUR 700 000 000 allocated to the flagship projects, at least EUR 665 000 000 have been committed.

B. COMPONENT 1.2: CLIMATE-FRIENDLY MOBILITY

The component of the German recovery and resilience plan addresses the challenge of climate change mitigation with a focus on the transport sector.

The objective of the component is to contribute to substantially reducing CO_2 emissions in the transport sector. It specifically aims to establish alternative technologies in the transport sector in a sustainable way, to make them more energy-efficient, climate- and environmentally friendly, thereby further promoting the energy transition in transport.

Support for the market development of electro-mobility and the complementary investment in sustainable mobility technologies are also intended to support the transition towards a climate-neutral automotive and supply industry and to help Germany strengthen its economy in the medium and long term.

The component supports addressing the Country Specific Recommendation to "focus investment on the green and digital transition, in particular on sustainable transport, (…) research and innovation" (Country Specific Recommendation 1 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

B.1. Description of the reforms and investments for non-repayable financial support

1.2.1 Investment: Support for the construction of charging infrastructure

The general challenge addressed by the measure is the need to develop clean mobility solutions to decarbonise the transport sector. Specifically, this measure tackles the need to develop a ubiquitous network of charging infrastructure for e-vehicles. This is one of the key conditions for the success of electro-mobility as the current lack of charging infrastructure holds back the purchase of e-vehicles.

The measure consists of aid for building recharging points, including the necessary grid connection of the recharging site and the installation of the recharging point itself. Support shall take the form of project funding for a grant scheme to be operated by the Ministry of Transport and Digital Infrastructure (BMVI). It shall apply to both publicly accessible and non-publicly accessible charging infrastructure.

The implementation of the measure shall be completed by 31 December 2025.

1.2.2 Investment: Funding for the development of electro-mobility

The general challenge addressed by this measure is also the need to develop clean mobility solutions to decarbonise the transport sector. In particular, it targets the further market development of electro-mobility and, in particular, the development of municipal and commercial vehicle fleets.

The measure consists of financial support given for the purchase of electric vehicles in municipal and commercial fleets and necessary charging infrastructure for the operation of these vehicles. In addition, application-oriented research and development projects, the development of electric mobility projects (municipal and commercial) and electro-mobility concepts shall be supported. The support shall take

the form of funding a grant scheme to be operated by the Ministry of Transport and Digital Infrastructure (BMVI).

The implementation of the measure shall be completed by 30 June 2024.

1.2.3 Investment: Support for the replacement of the private vehicle fleet

The general challenge addressed by this measure is the same as for measure 1.2.2. The promotion of electro-mobility is an essential part of achieving the Paris climate goals in the transport sector. The measure focuses on the challenge represented by the very low share of pure e-cars in the total vehicle fleet (1,2% in 2020), especially compared to the 7 million to10 million electric vehicles envisaged in the 2030 Climate Change Programme.

The measure shall reduce the purchase prices of electric vehicles, which is usually higher compared to those with internal combustion engines, thereby stimulating the market. Support shall be provided exclusively for the promotion of zero-emission vehicles and plug-in hybrids emitting less than 50g CO_2/km.

The implementation of the measure shall be completed by 31 December 2022.

1.2.4 Reform: Extension of the initial registration period for granting the ten-year tax exemption for purely electric vehicles

The general challenge addressed by this measure is the same as for measure 1.2.2. The promotion of electro-mobility is an essential part of achieving the Paris climate goals in the transport sector.

The measure consists of a ten-year tax exemption starting from the registration of an electric vehicle. It shall be limited to purely electric vehicles. The exemption shall apply to all natural and legal persons.

The implementation of the reform shall be completed by 31 March 2026.

1.2.5 Investment: Support for purchases of buses with alternative propulsion

The general challenge addressed by this measure is the same as for measure 1.2.2. The aim of the measure is to support the market circulation of alternatively fuelled buses in passenger transport. Currently, diesel buses are still almost exclusively used in bus transport. The shift to low-emission buses shall contribute to a lower climate impact and less air pollution.

The measure consists of grants attributed on the basis of calls for tenders. Funds shall mainly be used for battery-powered electric buses, battery trolley buses, fuel cell buses and 100% biomethane-powered buses. Operationally necessary infrastructure, as well as feasibility studies on alternative drives in public transport, may also be supported. It is expected that the financing of buses to be fuelled with biomethane will remain limited (the share of gas buses in Germany has steadily decreased in recent years and is currently around 2% of all city buses in use).

The implementation of the measure is expected to start in the third quarter of 2021 and shall be completed by 30 September 2026.

1.2.6 Investment: Support to promote alternative rail propulsion

The challenge addressed by this measure is also the decarbonisation of the transport sector, but it focuses on rail. Around 3 200 diesel locomotives are currently used in rail freight transport; 60% may be classified as very old vehicles with high CO_2 emissions. This measure aims to replace these particularly old vehicles to achieve a

significant reduction in CO_2 emissions and air pollutants (such as nitrogen oxides and black carbon).

The measure consists of financial support for the procurement of innovative rail vehicles (in terms of powertrain) or the conversion to alternative engines with significant CO_2 savings on non-electrified lines compared to conventional diesel vehicles. Applications shall be prioritised on the basis of environmental benefits.

The implementation of the measure shall be completed by 31 December 2024.

1.2.7 Investment: Promotion of the industries involved in hydrogen and fuel cell applications in transport

This measure seeks to contribute to the decarbonisation of the transport sector in link with component 1.1 Decarbonisation using renewable hydrogen in particular. The objective is to support a competitive supply industry for hydrogen and fuel cell technology. This includes enabling the production of fuel cell components and serial testing of hydrogen components and vehicles in Germany.

A new Hydrogen Technology and Innovation Centre shall focus on the hydrogen and fuel cell technology value chain for mobility applications. It shall also provide a development, certification and standardisation facility, which is not able to be carried out without public support due to the early stage of the market and the high costs involved. The measure shall also provide additional funding opportunities for the vehicle and supply industry through the existing funding guidelines in the National Innovation Programme for Hydrogen and Fuel Cell Technology.

The implementation of the measure shall be completed by 31 August 2026.

B.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone/ Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
22	1.2.1 Support for the construction of charging infrastructure	Milestone	Entry into force of funding guidelines	Two funding guidelines published in the Federal Gazette *(Bundesanzeiger)*	-	-	-	Q4	2021	The two funding guidelines are published in the Federal Gazette *(Bundesanzeiger)*, enabling eligible organisations / households to submit applications to: (1) 'charging infrastructure for residential buildings' and (2) 'publicly accessible charging infrastructure for electric vehicles'.
23	1.2.1 Support for the construction of charging infrastructure	Target	Expansion of the public recharging network for electric vehicles	-	Number of publicly accessible recharging points	0	50 000	Q4	2025	At least 50 000 publicly accessible recharging points have been funded with support from the grant scheme operated by the Ministry of Transport and Digital Infrastructure (BMVI).
24	1.2.1 Support for the construction of charging infrastructure	Target	Expansion of recharging points in residential buildings	-	Number of recharging points in residential buildings	0	400 000	Q4	2023	At least 400 000 recharging points in residential buildings have been funded with support from the grant scheme operated by the Ministry of Transport and Digital Infrastructure (BMVI).
25	1.2.2 Funding for the development of electro-mobility	Milestone	Entry into force of the funding guidelines	Entry into force of funding guidelines published in the Federal Gazette	-	-	-	Q4	2020	The funding guidelines covering the development of municipal and commercial e-vehicle fleets and charging infrastructure, as well as related applied R&D (e-mobility concepts/designs) and e-mobility concepts have been published in the Federal Gazette *(Bundesanzeiger)*, enabling eligible

				(Bundesanzeiger)						organisations / households to submit applications.
26	1.2.2 Funding for the development of electro-mobility	Target	Commitment of funds	-	EUR million	0	71,25	Q4	2022	Of the EUR 75 000 000 allocated to the measure, at least EUR 71 250 000 have been committed.
27	1.2.2 Funding for the development of electro-mobility	Target	Expansion of municipal and commercial e-mobility fleets	-	Number of e-vehicles	0	4 000	Q2	2024	Municipalities, companies and other eligible organisations have received funding commitments for at least 4 000 e-vehicles with support of the grant scheme.
28	1.2.2 Funding for the development of electro-mobility	Target	Completion of electro-mobility preliminary designs	-	Number of completed electro-mobility preliminary designs	0	80	Q2	2024	At least 80 electro-mobility preliminary designs have been completed for municipalities, companies or other eligible organisations.
29	1.2.3 Support for the replacement of the private vehicle fleet	Target	Support for the purchase of 240 000 electric vehicles	-	Number of e-vehicles purchased	0	240 000	Q1	2021	Beneficiaries have received grant support for the purchase of a total of 240 000 electric vehicles on the basis of the amended funding guidelines that entered into force on 8 July 2020.
30	1.2.3 Support for the replacement of the private vehicle fleet	Target	Support for the purchase of another 320 000 electric vehicles	-	Number of e-vehicles purchased	240 000	560 000	Q4	2022	Beneficiaries have received grant support for the purchase of a (cumulative) total of 560 000 electric vehicles on the basis of the amended funding guidelines that entered into force on 8 July 2020.
31	1.2.4 Extension of the initial registration	Milestone	Entry into force of the Seventh Motor Vehicle Tax Amendment	Provision in the law indicating the entry into	-	-	-	Q4	2020	The amendment to the Motor Vehicle Tax Act to extend the initial registration period for e-vehicles to obtain the ten-year tax exemption has entered into force.

	period for granting the ten-year tax exemption for purely electric vehicles		Act	force of the Seventh Motor Vehicle Tax Amendment Act						
32	1.2.4 Extension of the initial registration period for granting the ten-year tax exemption for purely electric vehicles	Milestone	Evaluation of the measure	The measure shall be evaluated five years after its entry into force, within the framework provided for in the Seventh Motor Vehicle Tax Amendment Act.	-	-	-	Q1	2026	The evaluation shall examine whether the vehicle tax bases is expected to continue to provide incentives for environmentally and climate-friendly mobility in the future. In particular, the data from the customs administration and the Federal Motor Transport Authority shall be used for this purpose (cf. BT-Drs.19/20978 p. 16). The evaluation shall be published.
33	1.2.5 Support for purchases of buses with alternative propulsion	Milestone	Publication of funding guidelines	Publication in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q3	2021	The funding guidelines on the support scheme for the purchase of buses and coaches for passenger transport with alternative propulsion have been published in the Federal Gazette *(Bundesanzeiger*).
34	1.2.5 Support for purchases of buses with alternative propulsion	Target	Approval of applications	-	EUR million	0	1 031	Q3	2025	Of the EUR 1 085 000 000 allocated to the measure, at least EUR 1 031 000 000 of bus purchase projects have been approved, enabling the orders of the corresponding buses.
35	1.2.5 Support for purchases of buses with alternative propulsion	Target	Orders of buses with alternative propulsion	-	Number of buses ordered	0	2 800	Q3	2026	At least 2 800 buses with alternative propulsion have been ordered with support from the scheme.

36	1.2.6 Support to promote alternative rail propulsion	Milestone	Entry into force of the funding guidelines	Entry into force	-	-	-	Q1	2021	The funding guidelines for the grant scheme to promote alternative rail propulsion have entered into force enabling eligible organisations to submit applications.
37	1.2.6 Support to promote alternative rail propulsion	Target	Approval of applications	-	EUR million	0	215,65	Q3	2024	Of the EUR 227 000 000 allocated to the measure, at least EUR 215 650 000 of rail purchase projects have been approved, enabling the orders of the corresponding rail vehicles.
38	1.2.6 Support to promote alternative rail propulsion	Target	Order of rail vehicles with alternative propulsion	-	Number of rail vehicles ordered	0	280	Q4	2024	At least 280 rail vehicles (locomotives) with alternative (to conventional diesel) propulsion have been ordered, with support from the scheme, as evidenced by binding awards by the beneficiary of contracts for the delivery of the vehicles with manufacturers.
39	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Milestone	Entry into force of amendment extending existing supporting guidelines (*Förderrichtlinien*) of the National Hydrogen and Fuel Cell Technology Innovation Programme (NIP) (or if not sufficiently covered by existing supporting guidelines, entry into force of new supporting	Publication in Federal Gazette *(Bundesanzeiger*)	-	-	-	Q4	2021	The relevant funding guidelines in the National Hydrogen and Fuel Cell Technology Innovation Programme (NIP), currently limited to 30 June 2021, has been extended in time and this extension has entered into force. If planned projects under the measure are not sufficiently covered by existing supporting guidelines, separate supporting guidelines shall be adopted.

			guidelines).							
40	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Target	Approval of projects for the vehicle and supplier industry for hydrogen and fuel cell applications in transport	-	Number of approved projects	0	170	Q4	2025	At least 170 R&D and market activation projects for hydrogen and fuel cell applications in transport have been approved, enabling the start of the implementation of the funded projects.
41	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Milestone	Establishment of a Technology and Innovation Centre for Hydrogen Technology	At least partial start of operations of the centre	-	-	-	Q3	2026	The Technology and Innovation Centre shall be at least partially operational, while, for example, construction works may not have been completed. Partial operation of the centre guarantees that the actual support services to businesses and stakeholders may be provided.

C. COMPONENT 1.3: CLIMATE-FRIENDLY RENOVATION AND CONSTRUCTION

The component of the German recovery and resilience plan addresses the challenge of climate change mitigation and energy transition with a focus on energy-efficient renovation.

In the building sector, Germany aims to reduce CO_2 emissions by around 40% by 2030 compared to current levels (120 million tonnes of CO_2 equivalent in 2020). By 2050, Germany aims to achieve net-zero GHG emissions, including for the building stock in Germany. At the same time, it must be ensured that construction and housing remain affordable.

The climate-friendly construction and renovation component aims at contributing to the achievement of these objectives by increasing energy efficiency and the share of renewable energy in final energy consumption for heating and cooling in buildings. Accompanying measures for the timber construction sector towards digitalisation, circularity and climate-friendly practices shall also be undertaken as timber is identified as having the potential to constitute a climate friendly and resource-efficient building material, as well as leading to cost-effective and time-efficient construction and renovation methods.

The component supports addressing the Country Specific Recommendations related to the green transition, in particular clean, efficient and integrated energy systems and, indirectly, to making housing more affordable (Country Specific Recommendation 1 in 2019 and Country Specific Recommendation 2 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

C.1. Description of the reforms and investments for non-repayable financial support

1.3.1 Investment: Support programme for the development of a climate-friendly timber construction

The objective of this investment is to accelerate the development, deployment and diffusion of innovative technologies, processes, products and services (digital transformation) to increase the use of timber as a climate-friendly building material. The measure is also intended to help overcome structural disadvantages and obstacles in order to be able to establish construction with timber on an equal footing in large-scale, multi-storey construction. To overcome the challenge of transfer of knowledge, innovation and technology between research and practice, the measure further aims to improve the networking between businesses, academia and research institutions related to climate-friendly construction with timber.

To that end, the measure shall focus support on advisory services (analysis, evaluations and recommendations) directed towards increasing the use of timber (coniferous/deciduous) and related to digitalisation, service and business innovation, business optimisation, and recyclability of construction products. The measure shall also focus on the development of innovation clusters related to innovation and development of climate-friendly timber construction. Given the structure of the sector, SMEs are expected to be the main beneficiaries of the support.

The implementation of the measure shall be completed by 31 December 2021. This corresponds to the period during which project owners may apply for support.

1.3.2 Investment: Municipal living labs for the energy transition

Municipal living labs for the energy transition explore and demonstrate innovative solutions for the efficient and sustainable energy supply of urban neighbourhoods. Technological and non-technical innovations are tested in a real-world environment, thereby contributing to technology development and market penetration, whilst serving as a blueprint for the subsequent large-scale roll-out of integrated solutions.

Living laboratories (including this measure) are one of the sector coupling measures of the German National Energy and Climate Plan (NECP).

At least four joint living labs projects shall be implemented, covering at least 10 urban neighbourhoods.

The implementation of the measure shall be completed by 31 March 2026.

1.3.3 Investment: Building renovation: federal funding for energy-efficient buildings

This investment measure focuses on support to the energy-efficient renovation of residential buildings. The measure shall achieve, on average, at least a medium-depth level renovation as defined in Commission Recommendation (EU) 2019/786 on Building Renovation[4]. More specifically, given the current state of housing stock and the minimum requirement to obtain support under the measure (the renovated building must achieve at minimum Energy class 100) it is expected to achieve on average a minimum of 45% of primary energy demand savings and potentially significantly more (70% savings) through bonuses for renewable energy and better classes of energy efficiency.

The implementation of the measure under the German recovery and resilience plan is expected to start by 1 July 2021 and shall be completed by 31 August 2026. In addition, Germany is planning to prolong the measure beyond 2026 with funding under its national budget.

C.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

[4] OJL 127, 16.5.2019, p. 34-79

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
42	1.3.1 Support programme for the development of a climate-friendly timber construction sector	Milestone	Funding guidelines on the promotion of climate-friendly timber construction	Publication in the Federal Gazette *(Bundesanzeiger*) and entry into force of the funding guidelines	-	-	-	Q1	2021	The guidelines have been published in the Federal Gazette *(Bundesanzeiger*), enabling companies and eligible organisations to apply for funding.
43	1.3.1 Support programme for the development of a climate-friendly timber construction sector	Target	Approval of projects related to the development of climate-friendly timber construction	-	Number of approved projects	0	20	Q2	2022	At least 20 projects have been approved, enabling the beneficiaries to start their implementation.
44	1.3.2 Municipal living labs for the energy transition	Target	Approval of 'living labs' projects	-	Number of approved projects	0	4	Q4	2023	At least four joint living labs projects have been approved through a grant decision, enabling the start of their implementation.
45	1.3.2 Municipal living labs for the energy transition	Target	Completion of urban neighbourhood projects	-	Number	0	10	Q1	2026	Innovative installations for efficient and sustainable energy supply have been tested and are operational in 10 urban neighbourhoods. The 10 implemented neighbourhood projects demonstrably achieve a reduction in

										primary energy demand compared to conventional energy supply for buildings, thus contributing to decarbonisation in the building sector.
46	1.3.3 Building renovation: federal funding for energy-efficient buildings	Milestone	Funding guidelines for the support of energy-efficient renovation of buildings	Publication of funding guidelines in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q3	2021	The guidelines have been published, enabling households and eligible organisations to apply for funding.
47	1.3.3 Building renovation: federal funding for energy-efficient buildings	Target	Completion of energy-efficient renovations of 10 000 housing units.	-	Number of housing units renovated	0	10 000	Q4	2024	At least 10 000 housing units have been renovated under the support scheme; the corresponding works have been fully carried out and the corresponding grants have been disbursed.
48	1.3.3 Building renovation: federal funding for energy-efficient buildings	Target	Completion of energy-efficient renovations of a further 30 000 housing units	-	Number	10 000	40 000	Q2	2026	At least 40 000 housing units have been renovated under the support scheme; the corresponding works have been fully carried out and the corresponding grants have been disbursed.

D. COMPONENT 2.1: DATA AS THE RAW MATERIAL OF THE FUTURE

The objectives of this component of the German recovery and resilience plan are to support the transition towards a secure and dynamic data economy through the promotion of data-driven innovation in the context of the data strategy[5] adopted by the German federal government on 27 January 2021, as well as through investments in research, development, innovation and first industrial deployments in strategic technological areas linked to the processing of data (microelectronics and next generation cloud infrastructures and services) in the context of large multi-country initiatives.

The component supports addressing the Country Specific Recommendations on investment in the digital transition (Country Specific Recommendation 1 in 2019 and Country Specific Recommendation 2 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

D.1. Description of the reforms and investments for non-repayable financial support

2.1.1 Reform: Innovative data policy for Germany

The objectives of the measure are to foster the sharing and innovative use of data. It notably aims at addressing the lack of infrastructures, data literacy, incentives to share data and incentives to invest in the data economy.

The investment consists of supporting projects, selected mainly through calls for proposals, covering the following activities:

- networks and research and development of software for high-performance computing;
- pilot projects/use cases/real laboratories (‘regulatory data sandboxes’) for the testing and scientific monitoring of data diffusion models;
- a research network of six living labs investigating depersonalisation of data in certain application domains such as healthcare, automotive, retail and manufacturing;
- research projects on technologies to anonymise data;
- actions aiming at developing data literacy in different fields of science (including those that are less data-intensive);
- data science laboratories linked to the national research data infrastructure;
- support to young researchers in data science;
- support to universities in the re-use, sharing and management of research data;
- monitoring of data skills of the German population;
- data literacy courses for students and other learners;

[5] See https://www.bundesregierung.de/breg-de/suche/datenstrategie-der-bundesregierung-1845632

- research and innovation on architectures, institutions and spaces for the data society;
- development of a freely available toolbox for increased data literacy; and
- a pilot project on data cooperation in the food value chain.

A specific set of actions aiming at improving data literacy and data use in the federal administration shall also be supported. These shall include:

- the stock-taking and analysis of measures already taken to increase data literacy;
- the mapping of data competence across public administration services;
- the creation of Chief Data Scientists or similar roles in federal ministries;
- the establishment and strengthening of internal data laboratories and data competence centres in federal ministries and agencies, including notably the Foreign Office, the Federal Ministry of Education and Research, the Federal Environment Agency, the Federal Ministry of Defence, the Federal Ministry for Economic Cooperation and Development, the Federal Institute for Occupational Safety and Health, the German Corporation for International Cooperation; and
- the creation of a digital academy in the Federal Academy for Public Administration, bringing together all training opportunities to support digitalisation.

The implementation of the reform shall be completed by 31 December 2025.

2.1.2 Investment: IPCEI Microelectronics and Communication Technologies

The objective of the measure is to contribute to a cross-border initiative aiming at endowing the European Union with capabilities in electronics design and deployment of the next generation of low power trusted processors and other electronic components.

The initiative is expected to be implemented through a planned Important Project of Common European Interest (IPCEI)[6].

The investment consists of providing support to German participants in projects to be implemented as part of the planned IPCEI.

The implementation of the investment shall be completed by 31 August 2026.

2.1.3 Investment: IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)

The objective of the measure is to contribute to a large-scale cross-border initiative aiming at fostering the development and first industrial deployment of smart cloud and edge solutions that are highly innovative, fully interoperable, highly secure, energy efficient and fully compliant with data protection.

The initiative is expected to be implemented through a planned IPCEI.

[6] IPCEIs are subject to the notification requirement and stand-still obligation in Article 108(3) of the Treaty on the Functioning of the European Union. The selection and the specificities of the individual projects may accordingly require adjustments to ensure compliance with the applicable State aid rules. Only projects approved by a Commission decision under the applicable State aid rules may receive State aid.

The investment consists of providing financial support to German participants in projects to be implemented as part of the planned IPCEI.

The selection criteria shall ensure that more than 50% of these projects address energy-efficiency as one of their key priorities and comply with the European Code of Conduct on Data Centre Energy Efficiency.

The implementation of the investment shall be completed by 31 August 2026.

D.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

.

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
49	2.1.1 Innovative data policy for Germany	Milestone	Start of projects	Start of all projects	-	-	-	Q4	2022	All projects and activities of the measure have started. Wherever relevant, selection procedures have been completed and selected projects have started.
50	2.1.1 Innovative data policy for Germany	Target	Development of human resources and capabilities in federal ministries	-	Percentage of federal ministries with data units and internal data laboratories	0	95	Q3	2026	At least 95% of federal ministries have established a Chief Data Scientist unit or equivalent and an internal data laboratory
51	2.1.1 Innovative data policy for Germany	Target	Budget execution – disbursement of at least EUR 464 400 000 to the supported projects	-	EUR million	0	464,4	Q3	2026	Of the EUR 516 000 000 allocated to the measure, at least EUR 464 400 000 have been disbursed to envisaged projects and activities.
52	2.1.2 IPCEI Microelectronics and Connectivity	Milestone	Content design of the planned IPCEI	Completion of national call for expression of interest process to identify	-	-	-	Q2	2021	The expression of interest procedure has been completed. Potential projects and project participants in Germany have been identified.

				projects in Germany						
53	2.1.2 IPCEI Microelectronics and Connectivity	Target	Launch of first projects	-	Number of projects	0	10	Q4	2022	Ten grant decisions have been signed.
54	2.1.2 IPCEI Microelectronics and Connectivity	Target	Budget execution – disbursement of at least EUR 1 275 000 000 to the supported projects	-	EUR million	0	1 275	Q3	2026	Of the EUR 1 500 000 000 allocated to the measure, at least EUR 1 425 000 000 have been committed (through signatures of grant decisions) and at least EUR 1 275 000 000 have been disbursed to projects.
55	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Milestone	Launch of R&D&I projects	Signature of grant decisions for R&D&I projects	-	-	-	Q4	2022	The grant decisions have been signed for all R&D&I projects covered by the IPCEI State aid decision. The selection criteria have ensured that more than 50% of these projects address energy-efficiency as one of their key priorities and comply with the European Code of Conduct on Data Centre Energy Efficiency.
56	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Milestone	Completion of R&D&I projects and launch of large-scale piloting of use cases	Publication of a report on the state of play of the projects	-	-	-	Q4	2024	A report on the state of play of the initiative has been published.
57	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Target	First industrial deployment of solutions developed under the measure.	-	Number of use cases addressed in large-scale pilots which	0	1	Q3	2026	At least one of the use cases addressed in the large-scale piloting phase shall have been subject to a first industrial deployment.

					are eventually addressed in first industrial deployments					
58	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Target	Budget execution – disbursement of at least EUR 637 500 000 to the supported projects	-	EUR million	0	637,5	Q3	2026	Of the EUR 750 000 000 allocated to the measure, at least EUR 712 500 000 have been committed (through signatures of grant decisions) and at least EUR 637 500 000 have been disbursed to projects. More than 50% of the funded projects addressed energy-efficiency as one of their key priorities and complied with the European Code of Conduct on Data Centre Energy Efficiency.

E. COMPONENT 2.2: DIGITALISATION OF THE ECONOMY

The objectives of the component of the German recovery and resilience plan are to support the digital transition of the German economy and the challenges resulting from it. The component addresses essential aspects such as research and innovation on digital technologies, and skills. It also aims at providing specific support to the automotive and rail sectors.

The component supports addressing the Country Specific Recommendations on investment in the digital transition (Country Specific Recommendation 1 in 2019 and Country Specific Recommendation 2 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

E.1. Description of the reforms and investments for non-repayable financial support

2.2.1 Investment: Vehicle manufacturer/supply industry investment programme

The objective of the measure is to provide support to the digital and ecological transition of the automotive industry, in the context of a programme aiming at supporting future-oriented investments by the vehicle manufacturers and supply industry[7].

The investment consists of funding projects to be selected through four calls for proposals corresponding to three modules and addressing:

- module (a):
    - investments in the vehicle sector, supporting in particular future-oriented investment projects by small and medium-sized enterprises in the vehicle industry, with the aim of making production processes more energy efficient and digital; and
    - support to research and development projects in the field of digitalisation of production processes and industry 4.0 in the vehicle industry.
- module (b):
    - support to research and development projects in the field of automated driving, innovative powertrains and light building in vehicle technologies.
- module (c):
    - support to regional innovation clusters for the transformation of the vehicle industry, addressing in particular the supply industry and focusing on technology transfer between enterprises from regions particularly affected by structural change, transition to climate-neutral propulsion and digitalisation and modernisation of industry production processes.

Only future investments that make a significant contribution to the digitalisation and climate objectives of the programme launched by Germany to support future-oriented investments by the vehicle manufacturers and supply industry shall be

[7] https://www.bmwi.de/Redaktion/DE/Textsammlungen/Industrie/zukunftsinvestitionen-fahrzeughersteller-zulieferindustrie.html

supported. Therefore, no targeted support for fossil combustion engine technologies in the vehicle sector shall be provided under the measure.

The implementation of the investment shall be completed by 31 August 2026.

2.2.2 Reform: Federal programme 'Building continuing education and training networks (CET networks)'

The objective of the measure is to support so-called 'CET networks', which promote the organisation of training activities, for employees of SMEs in particular. More specifically, the aim is to support the establishment or development of professional development networks, in order to enable companies, among other things, to benefit from the experience of other companies and of educational and advisory centres and institutions, and thereby to develop their own strategic staff development and training planning. These 'skills alliances' shall also enable participating training providers to adapt their offer.

The investment consists of supporting around 40 pilot projects, selected through one of the calls for proposals organised under the federal programmes 'Building CET networks'.

The implementation of the reform shall be completed by 31 December 2024.

2.2.3 Investment: Digitalisation and Technology Research Centre of the Bundeswehr (dtec.bw)

The objective of the measure is to support research and innovation activities on strategic technological areas for the future, in order to contribute to strengthen German and European digital and technological sovereignty.

The investment consists of supporting research, development and innovation activities led by the Digitalisation and Technology Research Centre of the Bundeswehr (dtec.bw).

The corresponding research projects shall focus on digital fields and key technologies for the future, in line with the federal government's high-tech strategy priorities ('Sustainability', 'Climate Protection and Energy', 'Mobility', 'Security' and 'Economics and Work 4.0'):

- Space research, aerospace engineering and space communications;
- Sensor technology and integrated sensor systems;
- Innovative, connected mobility;
- Cybersecurity, including quantum communications;
- Research on risk, critical infrastructures, security and conflict;
- Technologies, methods and impacts of digitalisation (e.g. additive manufacturing);
- Digitalisation of the energy and production sectors, sustainable infrastructure development;
- Artificial Intelligence, robotics and intelligent physical systems; and
- Skills for the digital world of work and leadership models of the future.

The implementation of the investment shall be completed by 31 August 2026.

2.2.4 Investment: Promoting the digitalisation of rail by replacing conventional interlocking/fast-track programmes to speed up the roll-out of the 'Digital Rail Germany' (SLP)

The objective of the measure is to support the digitalisation of railway in the context of the 'Digital Rail Germany' initiative and the 'fast track' programme aiming at accelerating it. This initiative gathers public and private stakeholders (including the Federal Railway Authority (EBA), research and technical organisations and industry, amongst others) in order to develop standardised, interoperable and modular components for the digitalisation of railway operations.

The investment consists of funding seven pilot projects of the programme, aiming at developing solutions to replace old signal boxes and level crossing protection systems by security systems of the latest digital generation.

Four of these projects shall enable established firms to certify new solutions in an operational context, while the other three shall enable additional providers to validate their solutions in laboratory tests. The new solutions developed by these projects shall be compatible with the technical specifications of the 'Digital Rail Germany' programme. They are also expected to be upgradeable and compatible with a subsequent ETCS (European Train Control System) upgrade by means of uniform system interfaces.

The implementation of the investment shall be completed by 31 December 2021.

E.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
59	2.2.1 Vehicle manufacturers/ suppliers investment programme	Milestone	Publication of all funding guidelines	Publication of the funding guidelines in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q1	2021	All the funding guidelines for the four types of support measures under the programme have been published in the Federal Gazette *(Bundesanzeiger*) and have become legally binding.
60	2.2.1 Vehicle manufacturers/ suppliers investment programme	Target	Approval of projects	-	Number of projects approved	0	401	Q1	2023	At least 401 funding projects (for the three modules) have been approved and have received a support decision for implementation.
61	2.2.1 Vehicle manufacturers/ suppliers investment programme	Target	Successful completion of projects	-	Number of projects successfully completed	0	531	Q3	2026	At least 531 funding projects approved between 2021 and 2026 have been successfully completed.
62	2.2.2 Federal programme 'Building further CET networks'	Milestone	Publication of the funding guidelines	Publication of the funding guidelines in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q2	2020	The funding guidelines have been published in the Federal Gazette *(Bundesanzeiger*) and have become legally binding.
63	2.2.2 Federal programme 'Building	Target	Active participation of additional	-	Number of additiona	0	200	Q4	2022	At least 200 additional enterprises participate in CET networks. These companies participate in the collection of

	further CET networks'		enterprises in CET networks		l enterprises participating in CET networks					training needs, the design of new training measures or modules and the use of proposed training measures or modules together with other companies (use of information and participation in events only shall not be considered as active participation). Only companies that have not already been designated as cooperation partners at the start of the respective skills alliance shall be taken into account for this target.
64	2.2.2 Federal Programme 'Building further CET networks'	Target	Revision or redesign of training measures or sub-modules as a result of the work of the CET networks	-	Number of revised or redesigned training measures	0	60	Q4	2024	At least 60 training measures or sub-modules have been redesigned or revised, taking into account digital skills, which have been initiated or encouraged by CET networks or which take into account the results of the needs assessments carried out by the coordinating bodies of CET networks.
65	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Launch of research projects	-	Number of projects	0	68	Q1	2021	At least 68 funding grants have been signed and the corresponding 68 projects have received funding and may start their research activity.
66	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Milestone	Report on research and transfer outputs	Publication of a report to Federal Ministry of Defence confirming successful progress of projects	-	-	-	Q4	2023	A report to the Federal Ministry of Defence has been published, confirming the progress of the funded projects in terms of research outputs, cooperation, knowledge transfer and technology transfer with at least (overall): - 200 publications; - 70 collaborations initiated with other research institutes; - 30 collaborations initiated with

										industrial companies and startups; - 15 collaborations initiated with agencies of the Federal Armed Forces and the public administration; - 10 prototypes of mature technologies; and - 10 patent applications. Additionally, an external evaluation of the measure by the German Science Council has also been published.
67	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Continuation of projects	-	Number of projects assessed as progressing satisfactorily	0	40	Q2	2024	On the basis of an interim evaluation, at least 40 projects are considered as progressing satisfactorily and may continue their activities.
68	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Budget execution – disbursement of EUR 700 000 000 to the supported	-	Funds paid to projects	0	700	Q3	2026	At least EUR 700 000 000 has been disbursed to projects supported through the measure.
69	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Milestone	Report on research and transfer outputs	Publication of a report to Federal Ministry of Defence confirming successful	-	-	-	Q3	2026	A report to the Federal Ministry of Defence has been published, confirming the overall success of the funded projects in terms of research outputs, cooperation, knowledge transfer and technology transfer with at least (overall): - 400 publications;

				progress of projects						- 60 doctorates completed; - 100 collaborations initiated with other research institutes; - 70 collaborations initiated with industrial companies and startups; - 30 collaborations initiated with agencies of the Federal Armed Forces and the public administration; - 20 prototypes of mature technologies; - 20 patent applications; and - 10 start-up projects.
70	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fast-track programmes to speed up the roll-out of 'Digital Rail Germany'	Milestone	Signature of the financing agreement for the 'fast track' programme between the Federal Government and Deutsche Bahn AG	Signed financing agreement between the Federal Government and Deutsche Bahn AG	-	-	-	Q4	2020	The financing agreement between the Federal Government and Deutsche Bahn AG has been signed.
71	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fa	Milestone	Interim report on implementation	Interim report submitted by DB Netz AG to the Federal Ministry for Transport and Infrastructures	-	-	-	Q2	2021	DB Netz AG has submitted a report to the Federal Ministry for Transport and Infrastructures (BMVI) and the Federal Railway Authority (EBA) on the implementation of the programme.

	st-track programmes to speed up the roll-out of 'Digital Rail Germany'			(BMVI) and the Federal Railway Authority (EBA) on the implementation of the programme.						
72	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fast-track programmes to speed up the roll-out of 'Digital Rail Germany'	Target	Successful completion of pilot projects	-	Number of pilot projects completed	0	7	Q4	2021	Seven pilot projects of the programme, aiming at developing solutions to replace old signal boxes and level crossing protection systems by security systems of the latest digital generation have been completed successfully, with validation in operational conditions for at least four of them, and validation in laboratory conditions for the others.

F. COMPONENT 3.1: DIGITALISATION OF EDUCATION

The component of the German recovery and resilience plan focuses on providing financial support for investments in the digital transition in education. The overall aim is to allow for more and better digital teaching and learning throughout the different education and training systems in Germany.

The component addresses the challenge of digital education in Germany. The long identified challenge has been exacerbated by the COVID-19 pandemic as the related lockdown caused closure of education sites such as schools, training institutions and universities. With the shift to online education, suboptimal infrastructure and basic digital skills are putting a break on the learning processes.

The component supports addressing the Country Specific Recommendation on focusing the investment on digital transition, in particular on education (Country Specific Recommendation 2 in 2020 and 1 in 2019) and improving educational outcomes and skills levels of disadvantaged groups (Country Specific Recommendation 2 in 2019).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

F.1. Description of the reforms and investments for non-repayable financial support

3.1.1: Investment: Investment programme for teacher devices

The objective of this investment is to ensure the feasibility of digital teaching and learning across all schools in Germany. It consists of equipping all teachers with mobile digital devices on a lending basis. The measure shall be part of a bigger framework supporting digital education that is only partially supported by the German recovery and resilience plan. The provision of digital devices shall be ensured by schools.

The implementation of the investment shall be completed by 31 December 2021.

3.1.2 Reform: Education platform

The objective of this measure is to develop and establish the first national education platform for an encompassing education area that, with digital means, supports the development of competences by learners throughout their individual learning pathways. The platform shall connect existing and new learning offers and learning materials and allow for a broad and open access.

The implementation of the measure is expected to start by 31 March 2022 and shall be completed by 31 December 2025.

3.1.3 Reform: Educational centres of excellence

The objective of this measure is to improve and institutionalise digital education as part of the established teacher education and further education framework. The measure shall support by providing scientific content the development and set-up of competence centres for digital education based on a system of collaboration between teacher education and in-service training institutions, universities, and research institutes.

The implementation of the measure shall be completed by 31 August 2026.

3.1.4 Investment: Modernisation of the Federal Armed Forces' educational and training facilities

This investment seeks to equip up to 60 different education institutions of the Federal Armed Forces (*Bundeswehr*) with up-to-date information technology. The measure shall include a thorough analysis of the state of play and upgrade needs in the different institutions and a subsequent roll out of the necessary equipment and systems.

The implementation of the investment shall be completed by 31 March 2023.

F.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators			Indicative timeline for completion		Description of each milestone and target
				(for milestones)	(for targets)					
					Unit of measure	Baseline	Goal	Quarter	Year	
73	3.1.1 Investment programme for teacher devices	Milestone	Administrative agreement	Conclusion of the administrative agreement between the Federal Government of Germany and the governing bodies at Länder level	-	-	-	Q1	2021	Publication in the Federal Gazette (*Bundesanzeiger*) of the administrative agreement between the Federal Government of Germany and the governing bodies at Länder level to implement this investment.
74	3.1.1 Investment programme for teacher devices	Target	Disbursement of at least EUR 475 000 000 to the supported projects	-	EUR million	0	475	Q1	2022	Of the EUR 500 000 000 allocated to the measure, at least EUR 475 000 000 have been disbursed for the provision of digital equipment for teachers.

75	3.1.1 Investment programme for teacher devices	Milestone	Evaluation of changes in digital infrastructure and use of digital media in schools	Final evaluation report	-	-	-	Q4	2025	The evaluation report of the programme confirms that teachers have observed an improvement in the digital infrastructure available and the use of digital media in school.
76	3.1.2 Education platform	Milestone	Entry into force of the funding guidelines for education platform prototypes and procurement launched	Publication of the funding guidelines and call for tenders in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q1	2022	Funding guidelines have entered into force for the development of three separate prototypes of the meta-platform on education, as well as for cross-compatible research projects, accessible by learners and teachers. Depending on the result of these projects, the key dimensions of the project specifications are clarified and the procurement procedure shall be launched.
77	3.1.2 Education platform	Milestone	Launch of the beta-version of the education platform	Launch of beta version of the platform on the website of the Federal Ministry of Education and Research (*BMBF*)	-	-	-	Q3	2023	A beta version of the education platform shall be online, with all services and functions that have been identified in the functional description as high priority by the Federal Ministry of Education and Research (*BMBF*). These functions include access for information, user profile, collaboration, identity and access management, chat-bot, workflows, inbox. The launch shall be accompanied by additional security and data protection audits and successful load tests.

78	3.1.2 Education platform	Milestone	Final evaluation report with a decision on the future of the education platform	Publication of the final evaluation report in the Federal Gazette *(Bundesanzeiger*)	-	-	-	Q3	2024	The final evaluation report of the education platform has been published, with an assessment confirming that the project was successful according to the project monitoring criteria. The project shall be successful if the continuation of the education platform is recommended or if it is established that services and functions of the prototypes shall be taken over and continued by other stakeholders on the basis of the results of the project.
79	3.1.3 Educational centres of excellence	Milestone	Entry into force of the first funding guidelines and call for tenders for a project-executing agency for the overall programme	Publication of the first funding guidelines in the Federal Gazette (*Bundesanzeiger*) and publication of a call for tenders on an award platform.	-	-	-	Q4	2021	Under the lead of the Federal Ministry of Education and Research (*BMBF*), the first funding guidelines have entered into force and have been published. A project-executing agency has been chosen based on applications received via a public call for tenders on an award platform.
80	3.1.3 Educational centres of excellence	Target	Approval of at least 45 research projects	-	Number of research projects approved and in progress	0	45	Q3	2022	At least 45 research projects have been approved by the project-executing agency and are in progress. Results have been published via the Federal Gazette (*Bundesanzeiger*) and the *BMBF* website.

81	3.1.3 Educational centres of excellence	Milestone	Entry into force of three additional funding guidelines	Publication of the additional funding guidelines in the Federal Gazette (*Bundesanzeiger*)	-	-	-	Q3	2022	Under the lead of the Federal Ministry of Education and Research (*BMBF*), three additional funding guidelines, each of them with a specific thematic orientation, have entered into force and been published.
82	3.1.3 Educational centres of excellence	Target	Completion of research projects	-	Number of completed research projects	0	45	Q3	2026	At least 45 research projects have been completed, as evidenced by a final evaluation report that shall present the results of the supported research projects and demonstrate the added value for teacher training in digital and digitally supported teaching in each of the Länder. Results have been presented at a closing event and on the *BMBF* website.
83	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Milestone	Project contract signed	Project contract signed with the IT service provider	-	-	-	Q1	2021	The project contract for the initial phase for assessing the IT systems of the educational and training facilities of the Federal Armed Forces (*Bundeswehr*) has been signed between the Federal Office of Federal Armed Forces' Equipment, Information Technology and In-Service Support (BBAAINBw), a civilian higher federal authority directly subordinate to the Federal Ministry of Defense (*BMVg*) and the IT provider, stipulating key steps in the future assessment work.

84	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Target	Analysis of educational institutions and identification of their IT needs	-	Number of educational institutions fully analysed	0	60	Q1	2022	An assessment report has been adopted by the Federal Ministry of Defence *(BMV*g). This report shall demonstrate that the IT environments and needs of the 60 initially designated educational institutions have been analysed, and the needs and implementation possibilities have been identified.
85	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Target	Completion of the modernisation of the 60 educational institutions	-	Number of educational institutions for which modernisation has been completed	0	60	Q1	2023	A final assessment report has been adopted by the Federal Ministry of Defence *(BMV*g). This report shall confirm that on the basis of the results of the analyses carried out on the 60 institutions, necessary implementing measures have been completed within the time and budgets available. The result of the process, the progress already achieved regarding training and education shall be demonstrated and the way forward for the following years shall be mapped out.

G. COMPONENT 4.1: STRENGTHENING OF SOCIAL INCLUSION

This component of the German recovery and resilience plan mobilises resources to improve different aspects of social inclusion: (i) labour market inclusion of women and parents in general, (ii) improving educational outcomes and skills for students with a learning backlog, often from disadvantaged backgrounds, (iii) safeguarding apprenticeships, thereby supporting the labour market entry for young people, (iv) protecting take-home pay and jobs by avoiding an increase in the tax wedge, and (v) improving transparency throughout all three pillars of the pension system and thereby access to social protection.

The component supports addressing the Country Specific Recommendation on focusing investment-related economic policy on education and on shifting away taxes from labour (Country Specific Recommendation 1 in 2019), on reducing disincentives to work more hours, on taking measures to safeguard the long-term sustainability of the pension system while maintaining adequacy of the pension level at the same time and on improving educational outcomes and skills levels of disadvantaged groups (Country Specific Recommendation 2 in 2019) and on focusing investment on education (Country Specific Recommendation 1 in 2019 and 2 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

G.1. Description of the reforms and investments for non-repayable financial support

4.1.1 Investment: Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'

The objective of the measure is to promote the creation of new childcare facilities and the refurbishment of existing facilities, which shall create 90 000 additional places.

For this purpose, the federal government provides support to Länder and local authorities so that these invest in new buildings, extensions, conversions, refurbishments, renovations and equipment.

The implementation of the measure shall be completed by 31 December 2022.

4.1.2 Reform: Social Guarantee 2021

The objective of the measure is to avoid that the financial impact of COVID-19 triggers extensive social security contribution rises, denting take-home pay and increasing labour costs.

For this purpose, the Federal Government shall provide fiscal transfers for the social security funds to fill their financing gap, and with this avoid that the contribution rate of social security contributions exceeds 40% in 2021.

The implementation of the reform shall be completed by 31 December 2021.

4.1.3 Investment: Apprenticeship support

The objective of the measure is to counteract the COVID-19-related reduction in the number of apprenticeships.

For this purpose, the government shall provide financial support to SMEs that take on apprentices and that maintain their current level of training, create additional apprenticeships, avoid short-time working (*Kurzarbeit*) for apprentices, or take on apprentices from companies that have become insolvent.

The implementation of the measure shall be completed by 31 December 2022.

4.1.4 Reform: Educational support for students with a learning backlog

The objective of the measure is to avoid that a temporary learning backlog due to COVID-19-related disruption becomes entrenched.

For this purpose, the Federal Government shall provide financial support to the Länder so that these provide additional courses and mentoring to pupils, with a focus on core subjects and core competences such as German language, mathematics and science.

The implementation of the measure shall be completed by 30 September 2022.

4.1.5 Reform: Digital Pension Overview

The objective of this measure is to create a Digital Pension Overview, a portal to provide citizens information about their individual pension provision from all three pension pillars (statutory, company and private pensions).

For this purpose, the German Pension Fund (*Deutsche Rentenversicherung Bund*) shall establish a pension information portal, involving the various stakeholders to ensure that it aggregates relevant pension information, and, through testing and development, it ensures that the portal is user friendly.

The implementation of the measure shall be completed by 31 August 2026.

G.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
86	4.1.1 Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'	Milestone	Entry into force of the Childcare Financing Act and the Federal Financial Assistance Act and of the implementing regulations at Länder level	Provision in the law indicating the entry into force of the Childcare Financing Act and the Federal Financial Assistance Act as well as the Länder-specific implementing regulations	-	-	-	Q4	2020	Amendments to the Childcare Financing Act and the Federal Financial Assistance Act (KitaFinHG) for the extension of day-care for children have entered into force. The Länder have adopted the federal rules and made them more specific in their Länder regulations.
87	4.1.1 Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'	Milestone	Publication of interim report in compliance with KitaFinHG	Publication of interim reports containing numerical evidence (funding, number of childcare places, number of subsidised equipment) in accordance with the legal provisions and the relevant coordination discussions between the	-	-	-	Q4	2023	An interim report on approved and created childcare places and investments in equipment (§ 30 (2) and (3) KitaFinHG) has been published. The relevant Länder have reported to the federal government on the state of implementation, including on funding, number of childcare places, number of subsidised equipment, in accordance with the monitoring and guidance obligations.

				federal government and the Länder.						
88	4.1.1 Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'	Target	Completion of all measures	-	Additional childcare places for children	0	90 000	Q4	2025	The Länder have submitted their final report on implementation after completion of the checks on the use of funds. The report confirms that 90 000 newly funded childcare places for children prior to school entry have been created in child day-care facilities (*Kindertageseinrichtungen*) and child day-care services (*Kindertagespflege*) throughout Germany.
89	4.1.2 Social Guarantee 2021	Milestone	Verification of the average social security contribution rate for year 2021	Total social security contribution rate calculated and it is established not having exceeded 40%	-	-	-	Q4	2021	The total social security contribution rate shall be calculated for year 2021 and it is established that this has not increased above 40%. The total social security contribution rate shall be calculated as the sum of the contribution rates for pensions, unemployment, long-term care (without childless supplement) and healthcare insurance including the average additional contribution rate under § 242a Social Code V (SGB V).
90	4.1.3 Apprenticeship support	Milestone	Entry into force of the revised funding guidelines for the federal programme *Ausbildungsplätze sichern*	Publication of revised funding guidelines	-	-	-	Q2	2021	The revised funding guidelines covering the whole federal programme *Ausbildungsplätze sichern* have been published in the Federal Gazette *(Bundesanzeiger*), reflecting the cabinet decision taken on 17 March 2021.
91	4.1.3 Apprenticeship support	Target	Outflow of support for the federal programme	-	EUR million	0	652,5	Q4	2022	Of the EUR 725 000 000 allocated to the measure, at least EUR 652 500 000 have been disbursed under the programme.

			Ausbildungsplätze sichern							
92	4.1.3 Apprenticeship support	Target	Award decisions on applications for the federal programme *Ausbildungsplätze sichern*	-	Number of eligible applications having been awarded funding	0	70 000	Q4	2022	At least 70 000 eligible applications have been awarded funding under the programme.
93	4.1.4 Educational support for students with a learning backlog	Milestone	Agreement between the Federal Government and the Länder to provide learning support for learners with pandemic learning backlogs.	Länder and the Federal Government adopt the funding agreement	-	-	-	Q2	2021	The Federal Government and Länder have adopted the funding agreement setting out the conditions of funding learning support.
94	4.1.4 Educational support for students with a learning backlog	Target	1 000 000 students have received learning support	-	Number of pupils receiving support under the programme	0	1 000 000	Q3	2022	At least 1 000 000 pupils have received learning support as part of the programme, as proved by the monitoring report.
95	4.1.5 Digital Pension Overview	Milestone	Entry into force of the Digital Pension Overview Act	Provision in the law indicating the entry into force of the law on the Digital Pension Overview.	-	-	-	Q1	2021	The law on the Digital Pension Overview (RentÜG) has been published in the Federal Gazette (*Bundesanzeiger*) and has entered into force.
96	4.1.5 Digital Pension	Milestone	Completion of the development	The portal is available and has	-	-	-	Q4	2023	The coordination body responsible for the digital pension overview (ZfDR,

	Overview		and first operational phase.	been tested in a first operational phase. The evaluation report on the first operational phase has been submitted by ZfDR to the steering committee for further discussion.						*Zentrale Stelle für die Digitale Rentenübersicht*) has provided an evaluation report according to § 6 (3) RentÜG of the first operational phase, assessing the achieved level of usability and implementability for pension providers. The report shall clearly identify possible actions for improvements and new functionalities to be further discussed in the steering committee.
97	4.1.5 Digital Pension Overview	Milestone	Completion of the implementation of improvements deduced from practical experience during the first operational phase.	Improvements and where appropriate new functionalities have been implemented following the evaluation report and consultation with the steering committee. The Digital Pension Overview covers a majority of existing pension entitlements regarding those pension providers that are generally obligated to participate by law.	-	-	-	Q1	2026	Following the submission of the evaluation report, concrete targets shall be established on the frequency of use and on the coverage of pension entitlements. The target on the frequency of use and the target on coverage on pension entitlements is either met by Q1 2026 or further action to improve user acceptance is taken such as adopting a regulation to set the reference date for the obligation for pension providers to participate in the Digital Pension Overview, covering pension providers who are required to provide annual benefit statements to their customers.

H. COMPONENT 5.1: STRENGTHENING OF A PANDEMIC-RESILIENT HEALTHCARE SYSTEM

This component of the German recovery and resilience plan aims to increase the resilience of the healthcare sector, including to shocks induced by pandemics. The specific objectives of the measures under this component are the digitalisation of the public health offices, which play an important role in pandemic management in Germany, the digitalisation of hospitals to increase their efficiency and resilience, and research and development of vaccines against SARS-CoV-2.

The component supports addressing the Country Specific Recommendation to mobilise adequate resources and strengthen the resilience of the healthcare system, including by deploying e-health services (Country Specific Recommendation 1 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

H.1. Description of the reforms and investments for non-repayable financial support

5.1.1 Reform: Strengthening of the digital and technical resources of the public health service

The objective of the measure is to modernise the public health offices, in particular through increasing the level of their digitalisation and interoperability of IT systems to connect public health offices with other actors in the public healthcare system. The measure consists of a nationwide rollout of an IT system to track pandemic developments, and increasing the overall level of digital maturity in the public health offices over the next years.

The implementation of the measure shall be completed by 31 August 2026.

5.1.2 Investment: Programme to future-proof hospitals

The objective of the measure is to enable hospitals to invest within a short timeframe in their modernisation, including through digitalisation. The measure consists of establishing a fund, from which hospitals may receive financial support for a number of modernisation projects, for instance to improve their digital infrastructure, emergency capacities, tele-medicine, robotics, or IT and cyber security.

The implementation of the measure shall be completed by 31 August 2026.

5.1.3 Investment: Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2

The objectives of the measure are to support the research and development of vaccines against SARS-CoV-2 in order to reduce the severity and duration of the pandemic. The investment consists of financial support to German vaccine producers to increase their development and production capacity, and to increase patient numbers for clinical trial phases. This aims to strengthen the pharmaceutical/biotech sector in Germany in the long term and provide a broader base and flexibility to respond to the current and future pandemics.

The implementation of the measure shall be completed by 31 December 2022.

H.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
98	5.1.1 Strengthening of the digital and technical resources of the public health service	Target	Comprehensive nationwide use of the German Electronic Reporting and Information System for Infection Protection (*Deutsches Elektronisches Melde- und Informationssystem für den Infektionsschutz, DEMIS*)	-	Percentage of public health offices using DEMIS	0	100	Q1	2021	The competent authorities of the Länder are using DEMIS to register persons in the context of SARS-CoV-2 and to discharge the reporting requirements under § 8 (1) (2) of the Infection Protection Law[8].
99	5.1.1 Strengthening of the digital and technical resources of the public health service	Target	Progress of public health offices towards digital maturity	-	Percentage	0	35	Q1	2024	At least 35% of public health offices have improved their digital maturity by at least two levels by the end of Q4 2023 in at least two categories in the employed digital maturity system, as compared to their digital maturity level of 2021.
100	5.1.1 Strengthening of the digital	Target	Progress of public health offices towards	-	Percentage	35	70	Q3	2026	At least 70% of public health offices have improved their digital maturity by at least two levels by Q3 2026 in at

[8] *Gesetz zur Verhütung und Bekämpfung von Infektionskrankheiten bei Menschen (Infektionsschutzgesetz – IfSG)*, 20 July 2020 (BGBl. I p. 1045)

	and technical resources of the public health service		digital maturity							least three categories in the employed digital maturity system, as compared to their digital maturity level of 2021.
101	5.1.2 Programme to future-proof hospitals	Target	Applications submitted to the Federal Office for Social Security for at least EUR 2 700 000 000	-	Volume of funding (in million euro) for applications submitted to the Federal Office for Social Security	0	2 700	Q2	2022	Of the EUR 3 000 000 000 allocated to the measure, applications of at least EUR 2 700 000 000 in volume have been submitted to the Federal Office for Social Security for hospitals' projects under the Programme to future-proof hospitals by the deadline for the applications of 31 December 2021. By 31 March 2022, the Federal Office for Social Security shall publish the requested volume of funding.
102	5.1.2 Programme to future-proof hospitals	Target	Increase in the digital maturity of at least 35% of hospitals	-	Percentage of hospitals with increased digital maturity	0	35	Q4	2023	At least 35% of the hospitals whose application for funding under the Programme to future-proof hospitals was approved have increased their digital maturity in at least two categories related to the Programme to future-proof hospitals by at least two digital maturity levels in the employed digital maturity system compared with the evaluation from 30 June 2021.
103	5.1.2 Programme to future-proof hospitals	Target	Implementation of at least 75% of the relevant digitalisation projects	-	Percentage of completed digitalisation	0	75	Q3	2026	At least 75% of the digitalisation projects which have received funding under the Programme to future-proof hospitals and which, if not fully implemented by 31 December 2024, would lead to financial reductions

					projects					established under the Hospital Future Act (*Krankenhauszukunftsgesetz*[9]), have been fully implemented by 31 August 2026.
104	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Milestone	Approval of a first vaccine against SARS-CoV-2 by the regulatory authority	Recommendation for authorisation by the European Medicines Agency of a vaccine against SARS-CoV-2 developed by one of the three companies supported	-	-	-	Q4	2020	Approval recommended by the European Medicines Agency for a vaccine against SARS-CoV-2 developed by one of the three companies supported through measure 5.1.3.
105	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Target	Application for the approval of a vaccine against SARS-CoV-2 is submitted to the European Medicines Agency by a second vaccine candidate supported	Application for vaccine authorisation is submitted at the European Medicines Agency by a second company of the three companies supported	-	-	-	Q3	2021	Approval requested from the European Medicines Agency for a vaccine against SARS-CoV-2 by a second company of the three supported by measure 5.1.3.
106	5.1.3 Special programme to accelerate research and development of urgently needed vaccin	Target	Disbursement of at least EUR 712 500 000 to vaccine research supported by this special programme	-	EUR million	0	712,5	Q3	2022	Of the EUR 750 000 000 allocated to the measure, at least EUR 712 500 000 (95% of the total funding) have been disbursed to the beneficiaries for vaccine research.

[9] *Gesetz für ein Zukunftsprogramm Krankenhäuser (Krankenhauszukunftsgesetz – KHZG)*, 23 October 2020 (BGBI. I p. 2208).

	es against SARS-CoV-2									
107	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Milestone	End of programme	Completion and conclusive audit of the utilisation reports and of all final reports	-	-	-	Q4	2022	All final reports on the utilisation of funds have been submitted and audited.

I. COMPONENT 6.1: MODERN PUBLIC ADMINISTRATION

The component of the German recovery and resilience plan addresses the challenges of modernising Germany's public administration. The objective of the component is to advance the digitalisation of the public administration decisively and reduce the administrative burden for companies and citizens when interacting with the government.

The component supports addressing the Country Specific Recommendation on improving digital public services across all levels (Country Specific Recommendation 2 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

I.1. Description of the reforms and investments for non-repayable financial support

6.1.1 Reform: European identity ecosystem

The objective of the measure is to create a digital, open and secure ecosystem that establishes and verifies identities and personal documents online, without reliance on major private platforms. This includes personal IDs and documents such as diplomas, whilst the system shall also be open to other types of applications as well as verifying the identity of companies and devices within the *Internet of things*. The ecosystem shall be open for use by the administrations and the private sector in the EU and beyond.

The measure consists of developing technical components and standards, supporting interoperability efforts to other initiatives, providing a sovereign ID and catalysing the ecosystem by developing initial use cases. The first applications to be developed are subsidised and steered by the government, but as the ecosystem progresses, it is expected that the private sector shall develop applications independently.

The implementation of the measure shall be completed by 31 December 2025. The ecosystem is expected to continue to be implemented after this point.

6.1.2 Reform: Digitalisation of the administration – implementation of the Online Access Act

The objective of the measure is to make public services digitally available by 2022, in line with the Online Access Act[10]. Given Germany's federal system, public services are offered by both the federal level and the State governments and local authorities, which increases the level of required coordination substantially.

The measure consists of digitalising 100 service bundles that fall within the implementing competency of the Länder, and 115 service bundles within the competency of the Federal Government.

The implementation of the measure shall be completed by 31 December 2022.

[10] *Onlinezugangsgesetz*, 14 August 2017 (BGBl. I p. 3122, 3138).

6.1.3 Reform: Digitalisation of the administration –modernisation of registers

The objective of the measure is to enable a simple, secure and digital exchange of data stored in various German registers. This shall allow citizens and companies to submit their data only once, instead of having to submit the same data to different authorities multiple times.

The measure consists of the development of the necessary technical architecture and connecting at least 18 of the most important registers. To reach these objectives and steer the project, a register modernisation authority (*Registermodernisierungs-behörde*) shall be established.

The implementation of the measure shall be completed by 31 August 2026.

I.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators	Quantitative indicators			Indicative timeline for completion		Description of each milestone and target
				(for milestones)	(for targets)					
					Unit of measure	Baseline	Goal	Quarter	Year	
108	6.1.1 European identity ecosystem	Target	Launch of one pilot project for digital hotel check-in	-	Number of hotels with digital check-in	0	100	Q3	2021	A pilot project has been put into operation, allowing employees of four large German companies to check-in digitally to three large German hotel chains, with at least 100 hotels participating. The pilot provides first technical components as well as insights for the further development of the ecosystem.
109	6.1.1 European identity ecosystem	Target	Completion of additional government-supported application cases in addition to the pilot hotel check-in.	-	Number of application cases	1	5	Q3	2022	Following the first pilot application case, the implementation of at least four additional application cases (such as opening of bank accounts online, access management, online conclusion of telephone contracts or opening of customer accounts in e-commerce) has been completed, each with at least 10 000 users. The application cases have been integrated into existing systems and, where necessary, new interfaces have been implemented.

110	6.1.1 European identity ecosystem	Target	Provision of additional application cases beyond the pilots with little or no government support for their implementation	-	Number of application cases	5	10	Q4	2024	The system has been further scaled up through the implementation of increasingly less government-supported application cases, and at least ten application cases exist with at least 10 000 users each. At least two initiatives or proprietary decentralised identity solutions (such as proof of vaccination) are interoperable with the system.
111	6.1.2 Digitalisation of the administration — Implementation of the Online Access Act (OZG)	Target	Completion of individual agreements between the lead department and the lead Land	-	Number of individual agreements	0	14	Q3	2021	At least 14 individual agreements to implement the Online Access Act have been concluded between the lead department and the lead federal state, in which the operational arrangements are defined. The implementation shall be in accordance with the *one-for-all* principle. The individual agreements provide the legal basis for cooperation and work-based implementation.
112	6.1.2 Digitalisation of the administration— Implementation of the Online Access Act (OZG)	Target	Go-Lives of online access act service bundles (*Onlinezugangsgesetz-Leistungen*)	-	Number of online services going live	0	70	Q4	2021	At least 70 public service bundles are live (available online to the general public).
113	6.1.2 Digitalisation of the administration— Implementation of the Online Access Act	Target	Widespread digitalisation of federal administrative services as *one-for-all* services	-	Number of one-for-all online services going live	0	215	Q4	2022	At least 100 of the most important administrative services of the Länder are implemented nationwide as one-for-all services, as well as an additional 115 Federal Government services.

	(OZG)									
114	6.1.3 Digitalisation of the administration—modernisation of registers	Milestone	Completion of pilot projects to test pilot registers	End of pilot and assessment document compiled	-	-	-	Q4	2023	Completion of a pilot project to test pilot registers, in accordance with the implementation of the Identification Number Act (*Identifikationsnummerngesetz*[11]) and the Register Modernisation Act (*Registermodernisierungsgesetz*[12]).
115	6.1.3 Digitalisation of the administration —modernisation of registers	Milestone	Completion of the implementation of the uniform architecture for the advancement of the only-once principle	Central architectural components are ready to be connected to proprietary registers	-	-	-	Q4	2023	The standardised technical architecture is ready to be connected with priority registers for the implementation of the once-only principle. The legal bases for connecting priority registers shall be in place. Governance (multi-project management) to control the connection across registers shall be in place.
116	6.1.3 Digitalisation of the administration —modernisation of registers	Target	Priority connection of user-based registers to the once-only target architecture	-	Number of priority registers with once-only implementation	0	18	Q4	2025	At least 18 of the prioritised registers are connected to a single infrastructure to implement the once-only principle.

[11] *Identifikationsnummerngesetz*, 28 March 2021 (BGBl. I p. 591)
[12] *Registermodernisierungsgesetz*, 28 March 2021 (BGBl. I p. 591)

J. COMPONENT 6.2: REDUCTION OF BARRIERS TO INVESTMENT

This component of the German recovery and resilience plan addresses barriers to investment, which have been slowing public and private investment in Germany. Reducing barriers to investment enables the timely spending of funds and facilitates investment in the green and digital transition. Furthermore, it increases Germany's resilience to economic shocks and contributes to stimulating domestic demand, with potential to narrow the current account surplus, which has been repeatedly identified as a macroeconomic imbalance for Germany.

The component supports addressing the Country Specific Recommendations on achieving a sustained upward trend in private and public investment, and to enhance investment (Country Specific Recommendation 1 in 2019 and Country Specific Recommendation 1 in 2020).

It is expected that no measure in this component does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measures and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01).

J.1. Description of the reforms and investments for non-repayable financial support

6.2.1 Reform: Joint programme of the Federal Government and the Länder for an efficient administration that benefits citizens and businesses

The objectives of the measure are to make the administration more efficient, future-oriented and innovation-inducing. It aims, among other things, to accelerate planning and approval procedures, to further standardise the requirements faced by lower levels of government for requesting financial subsidies in order to ensure a faster outflow of funds, to accelerate housing construction, and to increase the number of successful transfers of business ownership to the next generation.

The measure consists of establishing a working group comprised of the federal level and the Länder, which shall develop proposals to improve the efficiency of public administration in 11 areas (as detailed in the milestones) that shall be implemented by 2025.

The implementation of the measure shall be completed by 31 March 2025.

6.2.2 Reform: Expansion of consulting services of PD - Berater der öffentlichen Hand GmbH

The objective of the measure is to increase public investment activity, especially on the municipal level, by enabling municipalities and other public entities to better integrate public funding programmes into their investment projects, as well as by improving the implementation of IT investments in schools.

The measure consists of two submeasures, to be executed by PD - Berater der öffentlichen Hand GmbH (PD), a public-sector consulting firm owned mostly by the federal state and the Länder. The first submeasure aims to support municipalities and other public entities in navigating the funding programme landscape, as well as to improve the calibration of public funding programmes to the needs of municipalities and other public entities. The second submeasure concerns the digitalisation of schools, for which PD shall develop consulting concepts and advise school authorities.

The implementation of the measure shall be completed by 31 August 2026.

6.2.3 Reform: Acceleration of planning and approval procedures in the transport sector

The objective of the measure is to substantially accelerate the planning and approval procedures in the transport sector. This aims to increase the capacity of transport routes, as well as facilitating the expansion of climate-friendly modes of transport in order to reach Germany's climate goals.

The measure consists of implementing and evaluating three laws, the investment acceleration act (*Investitionsbeschleunigungsgesetz*[13]), the most recent planning acceleration act, (*Planungsbeschleunigungsgesetz III*[14]) and the measure-act-preparatory-act (*Maßnahmengesetzvorbereitungsgesetz*[15]).

The implementation of the measure shall be completed by 31 August 2026.

J.2. Milestones, targets, indicators, and timetable for monitoring and implementation for non-repayable financial support

[13] *Gesetz zur Beschleunigung von Investitionen,* 03 December 2020 (BGBl. I 2020 p. 2694).
[14] *Gesetz zur weiteren Beschleunigung von Planungs- und Genehmigungsverfahren im Verkehrsbereich*, 03 March 2020 (BGBl. I 2020 p. 433).
[15] *Gesetz zur Vorbereitung der Schaffung von Baurecht durch Maßnahmengesetz im Verkehrsbereich,* 22 March 2020 (BGBl. I 2020 p. 640).

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name	Qualitative indicators (for milestones)	Quantitative indicators (for targets)			Indicative timeline for completion		Description of each milestone and target
					Unit of measure	Baseline	Goal	Quarter	Year	
117	6.2.1 Joint programme of the Federal Government and the Länder for an efficient administration that benefits citizens and businesses	Milestone	First progress report for the Conference of Minister-Presidents (MPK)	First progress report published	-	-	-	Q2	2021	The first report to the heads of government of the Federal Government and the Länder has been published and shall encompass a list of those measures from the Federal/Länder programme of measures which shall be further examined and processed. The starting point of the report are the following eleven areas of action: —Accelerating the outflow of grants; —Identifying obstacles to the outflow of grants and reporting them to the Federal Ministry of Finance; —Improving the financial support of municipalities; —Streamlining and making grants from the Federal Government to the Länder and municipalities as uniform as possible; —Improving transfer of business ownership through a dedicated task force; —Revising the *Musterbauordnung*[16] (model building code); —Strengthening planning and approval authorities;

[16] *Musterbauordnung – zuletzt geändert durch Beschluss der Bauministerkonferenz*, 27 September 2019 (https://www.bauministerkonferenz.de/verzeichnis.aspx?id=991&o=759O986O991)

										—Improving recruitment of skilled staff and ensuring an improved staffing situation; —Accelerating planning, in particular rail, local public and private transport; — Streamlining the consultation process and public participation procedures and simplifying participation through digitalisation; —Further accelerating planning and approval processes.
118	6.2.1 Joint programme of the Federal Government and the Länder for an efficient administration that benefits citizens and businesses	Milestone	Second progress report for the Conference of Minister-Presidents	Second progress report published	-	-	-	Q2	2022	The published progress report shall identify the measures that shall be implemented under the leadership of the Federal Government and/or the Länder. The progress report shall contain the following elements: The name of the measure; status (started, completed, not yet started); next milestone; expected end date.
119	6.2.1 Joint programme of the Federal Government and the Länder for an efficient administration that benefits citizens and businesses	Target	Completion of measures in the progress report	-	Percentage of measures completed	0	80	Q1	2025	Completion of the implementation of at least 80% of the measures identified in the second progress report.

120	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Milestone	Start of PD consulting services for selected funding programmes	Agreement with the federal ministries on selection of funding programmes	-	-	-	Q4	2022	Suitable funding programmes have been identified by PD jointly with the relevant federal ministries, and the consulting project to improve the calibration of these funding programmes to the needs of the recipients has started.
121	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Consultations carried out	-	Number of consultations carried out	0	100	Q3	2024	100 consultations with funding programme beneficiaries, which may also be part of a more encompassing investment advisory service, have been completed or are in the process of being carried out.
122	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Concepts for revision of funding programmes developed	-	Number of revision concepts	0	4	Q3	2024	Revision concepts have been developed for four funding programmes which also contain insight to inform the design of other programmes.

123	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Milestone	Information dissemination on lessons learned	Funding Guide of the Federal Ministry of Finance published	-	-	-	Q3	2026	Publication of a Federal Ministry of Finance Funding Guide on how to design public funding programmes for public infrastructure measures, to enable an improved outflow of funds.
124	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Consultations carried out	-	Number of consultations carried out	100	400	Q3	2026	At least 400 consultations with funding programme beneficiaries, which may also be part of a more encompassing investment consulting project, have been completed or are in the process of being carried out (target includes consultations completed as set out in target 121).
125	6.2.2.2 Expansion of consulting services of *PD*: School IT consultancy	Target	Roll-out and pilot consulting projects on school IT	-	Number of consulting projects carried out	0	5	Q4	2022	At least five consulting projects for school authorities on school IT have started.
126	6.2.2.2 Expansion of consulting services of *PD*: School IT consultancy	Milestone	Development of model concepts	Model IT concept	-	-	-	Q3	2024	A model IT concept and implementation programme have been developed as evidenced by corresponding PD project deliverables.

127	6.2.2.2 Expansion of consulting services of *PD*: School IT consultancy	Target	School IT consulting projects	-	Number of consulting projects carried out	5	50	Q3	2024	A total of 50 school authorities' consultations on school IT, which may be part of a more encompassing investment consulting project, have been completed or are in the process of being carried out (target includes the previous target).
128	6.2.3.1 Acceleration of planning and approval procedures in the transport sector	Milestone	Entry into force of the Investment Acceleration Act, the Planning Acceleration Act III, and the measure-act-preparatory-act	Provision in the law indicating the entry into force of the Investment Acceleration Act, the Planning Acceleration Act III, and the measure-act-preparatory-act.	-	-	-	Q4	2020	The Investment Acceleration Act, the Planning Acceleration Act III, and the measure-act-preparatory-act (*Investitionsbeschleunigungsgesetz, Planungsbeschleunigungsgesetz III*, *Maßnahmengesetzvorbereitungsgesetz*) have entered into force.
129	6.2.3.1 Acceleration of planning and approval procedures in the transport sector	Milestone	Evaluation of legislative changes	Evaluation of the three laws	-	-	-	Q3	2026	An extensive evaluation of the adopted legislative measures (see milestone 128) has been initiated, based on an evaluation concept that has been developed, and data collection has started. The evaluation shall, among other evaluation dimensions, include a comparison of the length of planning and approval procedures in the transport sector before and after the adoption of the measures and consider other qualitative and quantitative indicators.

Estimated total cost of the recovery and resilience plan

The estimated total cost of the recovery and resilience plan of Germany is EUR 26 518 833 613[17], which is higher than the maximum financial contribution.

SECTION 2: FINANCIAL SUPPORT

1. Financial contribution

The instalments referred to in Article 2(2) shall be organised in the following manner:

1.1 First instalment (non-repayable support):

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name
1	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Completion of expression of interest procedure
7	1.1.2 Support programme for decarbonisation in industry	Milestone	Entry into force of funding guideline (*Förderrichtlinie*) for decarbonisation in industry
11	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Milestone	Completion of expression of interest procedure for climate change contracts
14	1.1.4 Project-related climate protection research	Target	Approval of applications for support of climate-related research projects
17	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Milestone	Publication of the competition "Idea Competition 'Hydrogen Republic Germany'" (Förderaufruf zum Ideenwettbewerb „Wasserstoffrepublik Deutschland")
22	1.2.1 Support for the construction of charging infrastructure	Milestone	Entry into force of funding guidelines
25	1.2.2 Funding for the development of electro-mobility	Milestone	Entry into force of the funding guidelines
29	1.2.3 Support for the replacement of the private vehicle fleet	Target	Support for the purchase of 240 000 electric vehicles
31	1.2.4 Extension of the initial registration period for granting the ten-year tax exemption for purely electric vehicles	Milestone	Entry into force of the Seventh Motor Vehicle Tax Amendment Act
33	1.2.5 Support for purchases of buses with alternative propulsion	Milestone	Publication of funding guidelines
36	1.2.6 Support to promote alternative rail propulsion	Milestone	Entry into force of the funding guidelines
39	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Milestone	Entry into force of amendment extending existing supporting guidelines (*Förderrichtlinien)* of the National Hydrogen and Fuel Cell Technology Innovation Programme

[17] Germany submitted two cost estimates. The plan's gross value of EUR 27 949 882 000 includes VAT for some measures, while a net value of at least EUR 26 518 833 613 excludes VAT.

			(NIP) (or if not sufficiently covered by existing supporting guidelines, entry into force of new supporting guidelines).
42	1.3.1 Support programme for the development of a climate-friendly timber construction sector	Milestone	Funding guidelines on the promotion of climate-friendly timber construction
46	1.3.3 Building renovation: federal funding for energy-efficient buildings	Milestone	Funding guidelines for the support of energy-efficient renovation of buildings
52	2.1.2 IPCEI Microelectronics and Connectivity	Milestone	Content design of the planned IPCEI
59	2.2.1 Vehicle manufacturers/suppliers investment programme	Milestone	Publication of all funding guidelines
62	2.2.2 Federal programme 'Building further CET networks'	Milestone	Publication of the funding guidelines
65	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Launch of research projects
70	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fast-track programmes to speed up the roll-out of 'Digital Rail Germany'	Milestone	Signature of the financing agreement for the 'fast track' programme between the Federal Government and Deutsche Bahn
71	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fast-track programmes to speed up the roll-out of 'Digital Rail Germany'	Milestone	Interim report on implementation
72	2.2.4 Promoting the digitalisation of railways by replacing conventional interlocking/fast-track programmes to speed up the roll-out of 'Digital Rail Germany'	Target	Successful completion of pilot projects
73	3.1.1 Investment programme for teacher devices	Milestone	Administrative agreement
79	3.1.3 Educational centres of excellence	Milestone	Entry into force of the first funding guidelines and call for tenders for a project-executing agency for the overall programme
83	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Milestone	Project contract signed
86	4.1.1 Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'	Milestone	Entry into force of the Childcare Financing Act and the Federal Financial Assistance Act and of the implementing regulations at *Länder* level
89	4.1.2 Social Guarantee 2021	Milestone	Verification of the average social security contribution rate for year 2021
90	4.1.3 Apprenticeship support	Milestone	Entry into force of the revised funding guidelines for the federal programme *Ausbildungsplätze sichern*
93	4.1.4 Educational support for students with a learning backlog	Milestone	Agreement between the federal government and the Länder to provide learning support for learners with

			pandemic learning backlogs.
95	4.1.5 Digital Pension Overview	Milestone	Entry into force of the Digital Pension Overview Act
98	5.1.1 Strengthening of the digital and technical resources of the public health service	Target	Comprehensive nationwide use of the German Electronic Reporting and Information System for Infection Protection (Deutsches Elektronisches Melde- und Informationssystem für den Infektionsschutz, DEMIS)
104	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Milestone	Approval of a first vaccine against SARS-CoV-2 by the regulatory authority
105	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Target	Application for the approval of a vaccine against SARS-CoV-2 is submitted to the European Medicines Agency by a second vaccine candidate supported
108	6.1.1 European identity ecosystem	Target	Launch of one pilot project for digital hotel check-in
111	6.1.2 Digitalisation of the administration —Implementation of the Online Access Act (OZG)	Target	Completion of individual agreements between the lead department and the lead federal state (*Bundesland*)
112	6.1.2 Digitalisation of the administration— Implementation of the Online Access Act (OZG)	Target	Go-Lives of online access act service bundles (*Onlinezugangsgesetz-Leistungen*)
117	6.2.1 Joint programme of the federal government and the Länder for an efficient administration that benefits citizens and businesses	Milestone	First progress report for the Conference of Minister-Presidents (MPK)
128	6.2.3.1 Acceleration of planning and approval procedures in the transport sector	Milestone	Entry into force of the Investment Acceleration Act, the Planning Acceleration Act III, and the measure-act-preparatory-act
Instalment amount		EUR 4 500 328 548	

1.2 Second instalment (non-repayable support):

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name
2	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Issuance of first grant decisions
12	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Milestone	Funding guideline (*Förderrichtlinie*) for a pilot programme on climate change contracts based on the principle of Carbon Contracts for Difference
18	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Issuance of grant decisions
26	1.2.2 Funding for the development of electro-mobility	Target	Commitment of funds
30	1.2.3 Support for the replacement of the private vehicle fleet	Target	Support for the purchase of another 320 000 electric vehicles

43	1.3.1 Support programme for the development of a climate-friendly timber construction sector	Target	Approval of projects related to the development of climate-friendly timber construction
49	2.1.1 Innovative data policy for Germany	Milestone	Start of projects
53	2.1.2 IPCEI Microelectronics and Connectivity	Target	Launch of first projects
55	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Milestone	Launch of R & D & I projects
63	2.2.2 Federal programme 'Building further CET networks'	Target	Active participation of additional enterprises in CET networks
74	3.1.1 Investment programme for teacher devices	Target	Disbursement of at least EUR 475 000 000 to the supported projects
76	3.1.2 Education platform	Milestone	Entry into force of the funding guidelines for education platform prototypes and procurement launched
80	3.1.3 Educational centres of excellence	Target	Approval of at least 45 research projects
81	3.1.3 Educational centres of excellence	Milestone	Entry into force of three additional funding guidelines
84	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Target	Analysis of educational institutions and identification of their IT needs
91	4.1.3 Apprenticeship support	Target	Outflow of support for the federal programme *Ausbildungsplätze sichern*
92	4.1.3 Apprenticeship support	Target	Award decisions on applications for the federal programme *Ausbildungsplätze sichern*
94	4.1.4 Educational support for students with a learning backlog	Target	1 000 000 students have received learning support
101	5.1.2 Programme to future-proof hospitals	Target	Applications submitted to the Federal Office for Social Security for at least EUR 2 700 000 000
106	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Target	Disbursement of at least EUR 712 500 000 to vaccine research supported by this special programme
107	5.1.3 Special programme to accelerate research and development of urgently needed vaccines against SARS-CoV-2	Milestone	End of programme
109	6.1.1 European identity ecosystem	Target	Completion of additional government-supported application cases in addition to the pilot hotel check-in.
113	6.1.2 Digitalisation of the administration— Implementation of the Online Access Act (OZG)	Target	Widespread digitalisation of federal administrative services as *one-for-all* services
118	6.2.1 Joint programme of the federal government and the Länder for an efficient administration that benefits citizens and businesses	Milestone	Second progress report for the Conference of Minister-Presidents
120	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Milestone	Start of PD consulting services for selected funding programmes
125	6.2.2.2 Expansion of consulting	Target	Roll-out and pilot consulting projects

	services of *PD*: School IT consultancy		on school IT
Instalment amount		EUR 7 284 486 130	

1.3 Third instalment (non-repayable support):

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name
3	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Commitment of at least EUR 500 000 000
24	1.2.1 Support for the construction of charging infrastructure	Target	Expansion of recharging points in residential buildings
27	1.2.2 Funding for the development of electro-mobility	Target	Expansion of municipal and commercial e-mobility fleets
28	1.2.2 Funding for the development of electro-mobility	Target	Completion of electro-mobility preliminary designs
44	1.3.2 Municipal living labs for the energy transition	Target	Approval of 'living labs' projects
60	2.2.1 Vehicle manufacturers/suppliers investment programme	Target	Approval of projects
66	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Milestone	Report on research and transfer outputs
67	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Continuation of projects
77	3.1.2 Education platform	Milestone	Launch of the beta-version of the education platform
85	3.1.4 Modernisation of the Federal Armed Forces' educational and training facilities	Target	Completion of the modernisation the 60 educational institutions
87	4.1.1 Investment programme 'Childcare-financing' 2020/21: special fund 'Child Day-care Expansion'	Milestone	Publication of interim report in compliance with KitaFinHG
96	4.1.5 Digital Pension Overview	Milestone	Completion of the development and first operational phase.
99	5.1.1 Strengthening of the digital and technical resources of the public health service	Target	Progress of public health offices towards digital maturity
102	5.1.2 Programme to future-proof hospitals	Target	Increase in the digital maturity of at least 35% of hospitals
114	6.1.3 Digitalisation of the administration—modernisation of registers	Milestone	Completion of pilot projects to test pilot registers
115	6.1.3 Digitalisation of the administration —modernisation of registers	Milestone	Completion of the implementation of the uniform architecture for the advancement of the only-once principle
Instalment amount		EUR 6 639 217 950	

1.4 Fourth instalment (non-repayable support):

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name
8	1.1.2 Support programme for decarbonisation in industry	Target	Issuance of grant decisions
37	1.2.6 Support to promote alternative rail propulsion	Target	Approval of applications
38	1.2.6 Support to promote alternative rail propulsion	Target	Order of rail vehicles with alternative propulsion
47	1.3.3 Building renovation: federal funding for energy-efficient buildings	Target	Completion of energy-efficient renovations of 10 000 housing units.
56	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Milestone	Completion of R&D&I projects and launch of large-scale piloting of use cases
64	2.2.2 Federal Programme 'Building further CET networks'	Target	Revision or redesign of training measures or sub-modules as a result of the work of the CET networks
78	3.1.2 Education platform	Milestone	Final evaluation report with a decision on the future of the education platform
110	6.1.1 European identity ecosystem	Target	Provision of additional application cases beyond the pilots with little or no government support for their implementation
119	6.2.1 Joint programme of the federal government and the Länder for an efficient administration that benefits citizens and businesses	Target	Completion of measures in the progress report
121	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Consultations carried out
122	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Concepts for revision of funding programmes developed
126	6.2.2.2 Expansion of consulting services of *PD*: School IT consultancy	Milestone	Development of model concepts
127	6.2.2.2 Expansion of consulting services of *PD*: School IT consultancy	Target	School IT consulting projects
Instalment amount		EUR 3 480 124 348	

1.5 Fifth instalment (non-repayable support):

Sequential Number	Related Measure (Reform or Investment)	Milestone / Target	Name
4	1.1.1 Hydrogen projects within the framework of IPCEIs	Milestone	Evaluation of the support programme
5	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Commitment of EUR 1 500 000 000
6	1.1.1 Hydrogen projects within the framework of IPCEIs	Target	Creation of at least 300 MW of electrolysis capacity
9	1.1.2 Support programme for decarbonisation in industry	Target	Disbursement to the supported projects

10	1.1.2 Support programme for decarbonisation in industry	Target	Reduction of greenhouse gas emissions in industry
13	1.1.3 Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	Target	Disbursement to the supported projects
15	1.1.4 Project-related climate protection research	Target	Disbursement to the supported projects
16	1.1.4 Project-related climate protection research	Target	Completion of supported climate-related research projects
19	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Completion of the supported projects
20	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Disbursement to the supported projects
21	1.1.5 Flagship projects for research and innovation in the context of the National Hydrogen Strategy	Target	Commitment for flagship research and innovation projects
23	1.2.1 Support for the construction of charging infrastructure	Target	Expansion of the public recharging network for electric vehicles
32	1.2.4 Extension of the initial registration period for granting the ten-year tax exemption for purely electric vehicles	Milestone	Evaluation of the measure
34	1.2.5 Support for purchases of buses with alternative propulsion	Target	Approval of applications
35	1.2.5 Support for purchases of buses with alternative propulsion	Target	Orders of buses with alternative propulsion
40	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Target	Approval of projects for the vehicle and supplier industry for hydrogen and fuel cell applications in transport
41	1.2.7 Promotion of the industries involved in hydrogen and fuel cell applications in transport	Milestone	Establishment of a Technology and Innovation Centre for Hydrogen Technology
45	1.3.2 Municipal living labs for the energy transition	Target	Completion of urban neighbourhood projects
48	1.3.3 Building renovation: federal funding for energy-efficient buildings	Target	Completion of energy-efficient renovations of a further 30 000 housing units
50	2.1.1 Innovative data policy for Germany	Target	Development of human resources and capabilities in federal ministries
51	2.1.1 Innovative data policy for Germany	Target	Budget execution – disbursement of at least EUR 464 400 000 to the supported projects
54	2.1.2 IPCEI Microelectronics and Connectivity	Target	Budget execution – disbursement of at least EUR 1 275 000 000 to the supported projects
57	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Target	First industrial deployment of solutions developed under the measure.
58	2.1.3 IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	Target	Budget execution – disbursement of at least EUR 637 500 000 to the supported projects

61	2.2.1 Vehicle manufacturers/suppliers investment programme	Target	Successful completion of projects
68	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Target	Budget execution – disbursement of EUR 700 000 000 to the supported
69	2.2.3 Digitalisation and Technology Research Centre of the Bundeswehr	Milestone	Report on research and transfer outputs
75	3.1.1 Investment programme for teacher devices	Milestone	Evaluation of changes in digital infrastructure and use of digital media in schools
82	3.1.3 Educational centres of excellence	Target	Completion of research projects
88	4.1.1 Investment programme ‘Childcare-financing’ 2020/21: special fund ‘Child Day-care Expansion’	Target	Completion of all measures
97	4.1.5 Digital Pension Overview	Milestone	Completion of the implementation of improvements deduced from practical experience during the first operational phase.
100	5.1.1 Strengthening of the digital and technical resources of the public health service	Target	Progress of public health offices towards digital maturity
103	5.1.2 Programme to future-proof hospitals	Target	Implementation of at least 75% of the relevant digitalisation projects
116	6.1.3 Digitalisation of the administration —modernisation of registers	Target	Priority connection of user-based registers to the once-only target architecture
123	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Milestone	Information dissemination on lessons learned
124	6.2.2.1 Expansion of consulting services of *PD*: Effective Funding Support Management	Target	Consultations carried out
129	6.2.3.1 Acceleration of planning and approval procedures in the transport sector	Milestone	Evaluation of legislative changes
Instalment amount		EUR 3 709 321 467	

SECTION 3: ADDITIONAL ARRANGEMENTS

1. Arrangements for monitoring and implementation of the recovery and resilience plan

The monitoring and implementation of the recovery and resilience plan of Germany shall take place in accordance with the following arrangements:

- A coordination unit in the Federal Ministry of Finance shall monitor the implementation of Germany's recovery and resilience plan. The unit shall coordinate the monitoring and reporting of progress on milestones and targets and on relevant indicators, perform qualitative controls on all financial data and submit payment requests. The coordination unit shall be further responsible for identifying and correcting early on any potential undesirable developments. It shall serve as a coordinating body also for the monitoring and implementation of the audit and control measures.

- The coordinating function of the unit is based on established national mechanisms and regulations. The relevant national legal provisions and national mechanism for monitoring and control shall be applied, including the corresponding reporting obligations. The disbursement of funds for the measures in the recovery and resilience plan to the final recipients shall be carried out in compliance with the legal basis of the general funding guidelines (*Förderrichtlinie*) for the respective measure in accordance with the General Administrative Regulations, and on the basis of individual funding decisions (administrative acts) in favour of the final recipients.

- The coordination unit consists of a team of economists and budgetary and controlling experts with the relevant experience and specialist knowledge. Specialist expertise from other units of the Federal Ministry of Finance or other line Ministries shall be called in as needed. The mandate of the coordinating unit is set out in the distribution-of-business plan of the Federal Ministry of Finance.

2. Arrangements for providing full access by the Commission to the underlying data

The Federal Ministry of Finance, as the central coordinating body for Germany's recovery and resilience plan and its implementation, is responsible for overall coordination and monitoring of the plan. In particular, it acts as a coordinating body for monitoring progress on milestones and targets, for monitoring and, where appropriate, implementing control and audit activities, and for providing reporting and requests for payments. It coordinates the reporting of milestones and targets, relevant indicators, but also qualitative financial information and other data, such as on final recipients. The data encoding is taking place in decentralised IT systems throughout different ministries, which are obliged to report the required data to the Federal Ministry of Finance.

In accordance with Article 24(2) of Regulation (EU) 2021/241, upon completion of the relevant agreed milestones and targets in Section 2.1 of this Annex, Germany shall submit to the Commission a duly justified request for payment of the financial contribution. Germany shall ensure that, upon request, the Commission has full access to the underlying relevant data that supports the due justification of the request for payment, both for the assessment of the request for payment in

accordance with Article 24(3) of Regulation (EU) 2021/241 and for audit and control purposes.