European Commission

RECOVERY AND RESILIENCE SCOREBOARD

NextGenEU

Thematic analysis

Sustainable Mobility

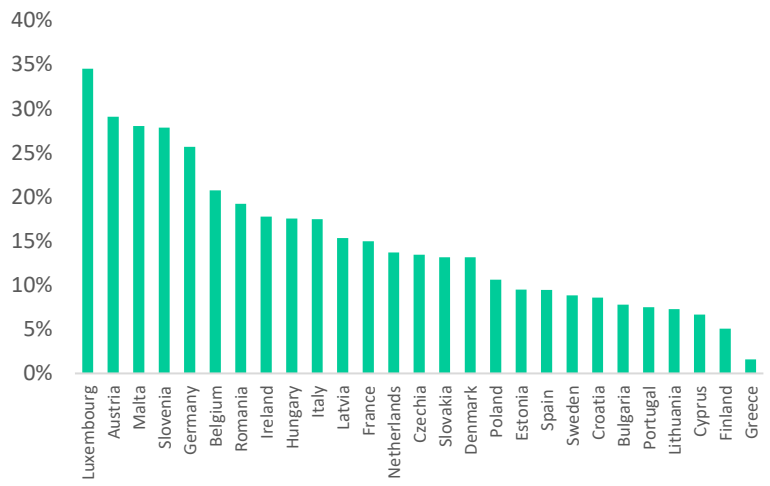
April 2024

This paper is part of a series of thematic analyses undertaken by the European Commission to illustrate the impact of the Recovery and Resilience Facility (RRF). The RRF is the European Union's largest ever funding instrument and is intended to support European economies and societies to recover from the Covid-19 pandemic and build resilience against future shocks. EU Member States commit to implement ambitious reforms and investments and receive funds from the RRF when they achieve these commitments.

Highlights

Supporting Sustainable Mobility

Expenditure on sustainable mobility in % of Member State RRP



77
REFORMS

311
INVESTMENTS

Overall, total estimated expenditure in sustainable mobility amounts to EUR 87.9 billion, across 27 member states, which corresponds to 25.7% of the total green expenditure in the plans (grants and loans included). This expenditure is matched with 77 reforms across the 27 member states.

Some key reforms and investments

Railway

The RRF supports reforms and investments to modernise and electrify railway infrastructure and rolling stock through construction, renovation and electrification of train lines and procurement of zero-emission trains (electric and hydrogen-fuelled).

Urban mobility

The RRF measures improve connectivity through support of measures in metro and tram extensions, electrification of public transport bus fleet, cycling paths and infrastructure, renovation of cable ferry lines, creation of coastal transport lines for passengers in insular areas.

Zero or low-emission vehicles

Many national RRPs also help consumers purchase zero emission vehicles, through scrapping schemes of the most polluting cars, financial incentives, investments into charging and refuelling points for electric vehicles for public as well as private usage.

Policy Overview

Transport has long been one of the hardest sectors to decarbonise and its decarbonisation will be crucial to achieve our climate and environmental goals. Domestic transport is responsible for about a quarter of the EU's greenhouse gas (GHG) emissions and has been one of the sectors that has not seen a decline in emissions. At the same time, transport is responsible for more than 40% of all nitrogen oxides (NOx) emissions and significantly contributes to the total emissions of other air pollutants such as particulate matter (PM). This raises direct climate, health and environmental concerns. Beyond this, the transport sector also raises issues related to road accidents, congestion, and biodiversity loss.

The energy used in the transport sector relies mainly on fossil-based liquid fuels. The decarbonisation of the transport sector involves finding alternative fuels and increasing clean public mobility. Battery electric mobility is a promising technology for emission reductions in road transport. However, it will struggle to fully replace conventional fuels in long-haul heavy goods vehicles. Air and maritime transport will also pose challenges. Green hydrogen and other renewable fuels of non-biological origin (e-fuels) offer a large potential for heavy-duty mobility, while sustainable biofuels are also expected to continue to grow in some modes.

In March 2023, as part of the package on 'Delivering the European Green Deal' and REPowerEU, the EU agreed to almost double the existing share of renewable energy and increase its binding target for renewables capacity by 2030 to a minimum of 42.5%. This overall target is complemented by a number of sectoral targets, including in the transport sector - the new Renewable Energy Directive[1] sets a target on the amount of renewable fuels or electricity supplied to lead to either a share of renewable energy within the final consumption of at least 29% or the sector's GHG intensity reduction by at least 14.5% by 2030. With its measures in electrification of railway, electric vehicles and charging infrastructure, the RRF represents a significant contribution to achieve this target.

The Commission's 'Sustainable and Smart Mobility Strategy' sets out a plan for making the EU's transport more sustainable through a significant reduction of its emissions. It aims to ensure that the transport system is truly resilient against future crises. The Strategy sets out several objectives including at least 30 million zero-emission vehicles in operation on European roads, and doubling traffic on high-speed rail by 2030. The Recovery and Resilience Facility makes a significant contribution to these objectives. Through the 'recharge and refuel' flagship, the 27 RRPs adopted will invest into more than 1 million charging points. The RRF finances sizeable rail investments, notably in the TEN-T network.

The 'Fit for 55'package of legislative proposals introduced in July 2021, and now almost fully adopted, sets the EU on a path to reach its 2030 climate target. Key legislation directly concerns transport. The **Alternative Fuels Infrastructure Regulation** requires Member States to expand charging capacity in line with the size of the market for zero or low-emission vehicles. They are also required to install recharging and hydrogen refuelling points at regular intervals on major highways: every 60 kilometers for electric charging and every 200 kilometers for hydrogen refuelling. The package also introduced tighter CO2 emissions standards for cars and vans, requiring average fleet emissions of new cars to come down by 55% as from 2030 (50% for vans) and 100% from 2035 compared to 2021 levels. Moreover, the Alternative Fuels Infrastructure Regulation requires that aircraft and ships have access to clean electricity supply in major ports and airports. **The Trans-European Network: Transport (TEN-T) Regulation** has also been revised, with the aim to accelerate the completion of the network and to apply new greener standards. The Important **EU Emission Trading System (ETS)** related **legislation was amended to include** maritime transport, to increase the auction share of intra-EU flights in the system, and to create a new ETS for fuel distribution for road

[1] Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, as amended by Directive (EU) 2023/2412

transport from 2025, while continuing to cover the sector under the Effort Sharing Regulation The revision of the **Energy Taxation Directive (ETD)** also contains proposals to group the taxation of motor fuels at higher levels than others, and to remove fossil fuel incentives such as exemptions for aviation and marine.

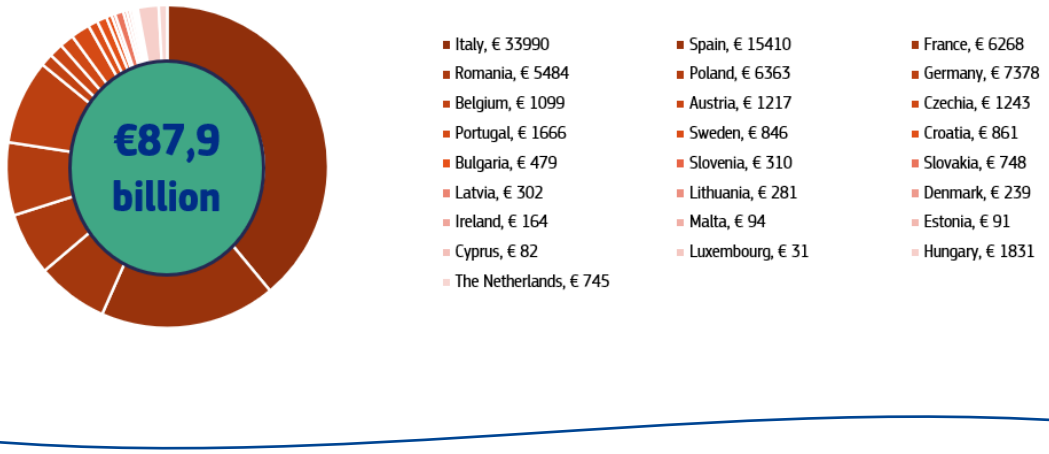
Achieving the EU's ambition in the transport sector will require a sustained investment effort to accelerate the deployment of renewable energies and energy infrastructure within the Union. The European Commission estimated that on average around 754 billion euros should be annually invested in energy-related transport in the period 2021-2030 to help reach the 55% climate target by 2030. This would entail a significant increase compared with the historical trend of investments over 2011-2020 which was estimated at around EUR 549 billion per year[2]. The investment needs include recharging infrastructure, refuelling infrastructure, purchase of vehicles, and rail rolling stock. It does not include non-energy elements such as rail, which will also be significant. Investments in transmission of electricity and hydrogen are not covered in this fiche.

Given the importance of transport across the EU, investments in cross-border projects will also be essential. Development of the TEN-T network will allow completing the modal shift and help moving passengers and freight across the EU in a sustainable way. Various Important Projects of Common European Interest (IPCEI) are also planned, in particular on hydrogen, which supports building a European hydrogen ecosystem, including the production, storage and application of hydrogen-based fuels. This instrument can help overcome common societal challenges, by addressing market failures for large cross-border integrated projects that significantly contribute to achieving climate goals.

Sustainable Mobility in the recovery and resilience plans

Overview of the plans

Total Sustainable Mobility expenditure per Member State
Expenditure in EUR millions per Member State



[2] SWD (2023) 68 final, average annual investment needs in the energy system and for transport, historical trend 2011-2020, and Fit-for55 policy scenario 2021-2030, (EUR 2022, billion)

Investments

All 27 recovery and resilience plans (RRPs) include a significant amount of investments dedicated to sustainable mobility and reflect the required contribution of transport to decarbonisation. Overall, total estimated expenditure in sustainable mobility amount to EUR 87.9 billion[3], which corresponds to 25.7% of the total green expenditures in the RRPs. Sustainable mobility measures supported by the RRF will also ensure progress towards other environmental objectives such as reducing air pollution.

Investments in railway infrastructure constitute by far the largest category of expenditure that contribute to enhance 'sustainable mobility' (EUR 40.09 billion[4]). The RRPs will contribute to modernising railway infrastructure and networks by financing the construction, renovation and electrification of train lines and procurement of zero-emission trains (electric and hydrogen-fuelled). The measures also improve rail connectivity in Europe through the expansion of the TEN-T network. This expansion will be supported in particular by the introduction of the European Rail Traffic Management System (ERTMS), which will increase safety and enhance interoperability of trains in Europe. All those investments will contribute to shift passenger and freight traffic from road to rail, decrease emissions and mitigate road congestion.

Sizeable investments also concern urban transport mobility (EUR 26.78 billion including rolling stocks[5]). These investments cover several areas, notably metro and tram extensions, electrification of public transport bus fleet, cycling paths and infrastructure, renovation of cable ferry lines, creation of coastal transport lines for passengers in insular areas. Those investments will improve connectivity, efficiency and accessibility of public transport services, while enhancing the transport sector's decarbonisation.

Additionally, promotion of zero or low emission mobility through support to electric vehicles and electric charging stations will be instrumental to achieving significant emission reductions (EUR 4.44 billion[6]). Such investments are included in several RRPs. They are generally centered on helping consumers purchase zero emission vehicles, through scrapping schemes of the most polluting cars and financial incentives to mitigate the upfront costs of purchasing electric vehicles. Some measures will provide funds for the construction of more than 1,3 million recharging and refuelling points for **low- and zero-emission** vehicles for public as well as private usage. This includes investments into charging stations along highways, in public buildings and in urban areas.

Alternative fuels infrastructures feature among the policy areas that are covered by a large number of Member States. In particular, investments will support the development of hydrogen and biomethane refuelling stations. Hydrogen features as a promising alternative source of energy in the transport sector. Some Member States also propose to install hydrogen refuelling infrastructure for trucks and railways rolling stock.

3 The figures for sustainable mobility presented in this thematic analysis, except when otherwise specified, are based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy area "Sustainable Mobility" as primary or secondary policy area, as reported in the dedicated reporting tool (Fenix) in March 2024.

4 Based on Annex VI of the RRF regulation 2021/241. Excluding rolling stocks.

5 Based on Annex VI of the RRF regulation 2021/241. Urban transport infrastructure and public transport rolling stock (e.g. trams, metros and buses).

6 Based on Annex VI of the RRF regulation 2021/241.

Sustainable mobility
Expenditure on sustainable mobility, % of total estimated cost per Member State

This chat shows estimated expenditure on Sustainable Transport by member State as a percentage of the estimated costs of the measures of the RRP.

Reforms

The reforms dedicated to sustainable mobility are an important part of the national RRPs reinforcing the investments. Some RRPs include measures reforming the national regulatory frameworks to introduce sustainable urban mobility plans; measures that entail preparation of detailed studies, strategies and financing mechanisms for the gradual renewal of public fleets; and sustainable, smart and safe mobility plans fostering integrated public mobility strategies across municipalities. Moreover, measures included in the RRPs aim at promoting the roll out of charging infrastructure through the removal of regulated electricity prices for such infrastructure or the facilitation and simplification of permitting procedures. These reforms are complemented by investments to stimulate the clean mobility market (electric or hydrogen vehicles).

Member states also plan to reduce carbon emissions through ambitious tax schemes, improvement of mobility services and simplification of procedures. Measures in the automotive sector include ambitious reforms of the taxation regimes in the transport sector. For instance, registration taxes will be lowered for electric or low-emission car holders. Reforms of the railway sector include dedicated strategies aiming at increasing the quality and efficiency of rail services. The RRPs will contribute to reforming the maritime sector, inland waterways, and introducing competition in port services. For example, navigation safety will be increased, traffic regulated close to ports, and port infrastructure improved in order to reduce the negative environmental impact of the transport sector. Lastly, many Member States included hydrogen related reforms in their RRPs, such as those enabling the creation of a regulatory framework for the functioning of hydrogen as an alternative fuel for transport, setting safety and technical requirements for hydrogen refuelling stations, easing rules for permitting and operation of the refuelling infrastructure and overall promote the development of renewable and low carbon hydrogen.

Good practices

The uptake of alternative modes of transport, from rail and cycling to waterborne, will be pivotal to achieve a successful conversion to green mobility. First, rail transport is fundamental to decarbonisation and modal shift,and it is one of the largest areas of investment in the RRPs. The TEN-T network - Trans-European Transport Network will be vital to connecting Europe. Second, cycling features as a key enabler of sustainable mobility, however there remain many obstacles to an increased uptake of this mode of transport, such as insufficient networks and infrastructure, despite bikes being in plentiful supply. Lastly, maritime transport is an important mode of transport for goods and passengers, particularly for islands, remote areas and outermost regions. This sector faces specific environmental challenges resulting from the heavy use of oil, a more challenging electrification, as well as safety issues.

Developing the market for zero-emission vehicles and their related infrastructure is also an essential element in achieving more sustainable vehicle transport. The uptake of electric vehicles is still mixed in the EU, and generally they represent a small share of the overall fleet. Some Member States still have many older, more polluting vehicles on the road. Most RRPs involve some stimulus for developing the electric vehicle (EV) market. In addition, insufficient infrastructure supporting electromobility constitutes a hindrance to the uptake of electric vehicles, which in turn disincentives investments into charging infrastructure. As such, incentives to invest in infrastructure to charge electric vehicles and give them the same range as internal combustion engine vehicles is the indispensable complement to the support given to zero emission vehicles. Several RRPs set high ambitions for progress in this area.

Modernisation and electrification of railway infrastructure and interoperability

Austria is using its RRP to improve the TEN-T Core Network Corridors, in particular the Styria-Carinthia connection in the Baltic-Adriatic Corridor, and the intra-regional connectivity in Austria. Through the investment, the plan will support the construction of a new railway line, and electrification of existing regional railway line.

Spain has ambitious measures in the railway sector, with measures at national and regional levels. First, Spain will improve the quality and reliability of the Cercanías (suburban rail network) service, through the upgrade of at least 700 km of short distance rail lines and at least 920 stations improved with new digital facilities or in terms of accessibility and tracks work. As regards inter-regional sustainable mobility, Spain plans to prioritise investments in the rail network, including at least 1,400 kilometres of network included within the Atlantic and Mediterranean TEN-T Corridors and Trans-European Network for Transport Program, as well as investments to improve accessibility of ports by rail. Lastly, the Indicative Rail Strategy will provide a framework to ensure a clearer planning of actions in the railway sector, geared towards every day and future mobility needs, in view of ensuring resource efficiency, interoperability and economic sustainability.

Romania will modernise 315 km of railway notably through the implementation of the ERTMS 2 standard which is a single European signalling and speed control system that ensures interoperability of the national railway systems, increasing the speed of trains and the capacity of infrastructure.

By updating the national Strategic transport framework, **Bulgaria**'s RRP aims to strengthen the capacity of the main responsible bodies, deliver a new public service contract for rail services, increase the number of passengers and reduce journey time between the largest cities. It will deliver new rolling stock and equip locomotives with the European Rail Traffic Management System (ERTMS), reducing maintenance costs and increasing train speed, infrastructure capacity and safety.

Urban mobility

Slovakia's plan contains investments to build more than 160 km of new cycling infrastructure by 2026. To support this investment, Slovakia will adopt also a reform to establish a methodology determining how to identify projects with the highest value for money and contribute to the objective of passenger modal shift from individual road transport to cycling.

Belgium will finance the electrification of the bus fleet for public transportation in Flanders and Brussels (145 new electric buses). Belgium's RRP also includes measures to substantially invest in its cycling, walking, rail, urban transport and inland waterways infrastructure. Belgium has committed to completing the suburban railway network around Brussels in the future revised SNCB-NMBS performance contract. The plan will support the completion of the light metro of Charleroi.

Zero emission vehicles

Finland has committed to adopt a reform of the taxation of employee transport benefits, that will stimulate the use of electric vehicles, public transport and bicycles. It will consist of lower tax rates for electric vehicles for the period of 2021-2025, simplified taxation schemes for commuter tickets and tax-free advantages on employee bicycles.

Czechia uses part of its RRF allocation as a stimulus to the electromobility market, providing investment aid to increase demand for electric vehicles, as well as other low emission alternatives. The plan includes an updated National Action Plan for Clean Mobility, Hydrogen Strategy, and a clean mobility reform through which Czechia commits to considerably increase the share of newly registered zero-emission vehicles. Czechia will also provide grants to private companies, setting a target for the scheme to result in the purchase 4050 zero-emission cars and vans and 500 cargo e-bikes. The plan includes an additional support for the purchase of 1,485 electric vehicles for municipalities, regions and state administration. Related measures for infrastructure are also included.

France supports the demand for clean vehicles, mainly from households, by introducing an "ecological bonus" for light vehicles to support the purchase of an electric, hydrogen or plug-in hybrid vehicle with CO2 emissions less than or equal to 50 g/km. The measure will allow for issuing up to 127.000 ecological bonuses.

Recharging and hydrogen refuelling infrastructure

Germany has set a target of funding at least 50,000 publicly accessible recharging points by, including at least 20,000 fast charging points to be deployed through innovative e-mobility tendering and permitting solutions under the Fast Charging Act (SchnellG). Another target consists in funding at least 400,000 recharging points in residential buildings by 2023.

Italy's charging infrastructures' measure consists of supporting the development of 7,500 fast public charging infrastructure points on public roads by 2025, 13,755 fast public charging infrastructure points in urban centres, and 100 experimental charging stations connected to energy storage facilities, 10 Train Hydrogen facilities and 40 hydrogen refuelling stations for trucks.

Recognising the need for both private and public investment, **Luxembourg** has set up a support scheme for charging points. This investment aims to foster the deployment of a dense, accessible network of charging points for electric vehicles across Luxembourg, by setting up a new scheme to financially support initiatives taken by businesses to develop new charging points.

Hydrogen will also be an important energy source, which comes with it its own infrastructure needs. As part of a wider measure, **Croatia's** Hydrogen Development Strategy, focused on developing hydrogen production and enabling its use in key sectors, includes an ambition to develop hydrogen-based charging stations for cars, buses, and heavy vehicles, trains and maritime transport.

Maritime

The **Dutch** plan also supports the decarbonisation of the maritime transport sector, by supporting the completion of Modular Energy Containers (MECs) with a total capacity of 150 kWh, 14 loading sites for vessels and fully electric inland waterway vessels with a total tonnage of 6161 TEU (twenty-foot equivalent units). In addition, the Netherlands will invest in five new electric recharging points for electric vessels (including hybrid vessels) at sea, as well as five new electric recharging points for electric vessels (including hybrid vessels) in the quay, and three new emergency response towing vessels.

Denmark's plan will support the green mobility through reforms and investments into the green ferries, in particular at least 15 ferries will be financed to be retrofitted or exchanged for green ferries.

Country overview

The figures provided in the Country Overview are based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy area "Sustainable mobility" as primary or secondary policy area. For all Member States, the listed relevant components are based on the Council Implementing Decision[7].

Austria

Allocation: 1,217 million. Relevant components: 1(B.1 to B.5), 2(D.3 S.12, D.3 S.13, D.3 S14), 4(D.5), 5(B.2).

The Austrian plan comprises a series of investments and reforms, which put an emphasis on railway infrastructure, zero-emission vehicles and charging stations. The country's largest investment relates to the modernisation and expansion of its railway network. A new railway line will be built between Styria and Carinthia and additional lines will be electrified and contribute to intra-regional connectivity. A new comprehensive Mobility Masterplan 2030 will frame various sector-specific strategies and actions that are necessary to bring about a permanent and continuous reduction in transport-related CO_2 emissions. The plan also proposes the introduction of a Climate ticket, which will facilitate the modal shift towards rail and public transport. This reform will expand support for nationwide and regional public transport services and simplify the price and tariff structure, by creating a joint ticketing platform. The sizeable investments in clean vehicles zero-emission buses and e-mobility infrastructure will be reinforced by a regulatory reform, simplifying the permit procedure for private investment in solar energy, charging and refuelling infrastructure. Adopted in 2020, the Eco-social tax reform at its second stage, will introduce a pricing mechanism for CO_2 emissions in non-ETS sectors including road, and thus provide further impetus for sustainable mobility transition. Overall, the reform is expected to reduce annual CO_2 emissions by at least 2.6 million tonnes by 2030.

[7] Source : Fenix (RRF reporting tool)

Belgium

Allocation: EUR 1,099 million. Relevant components: 3.1, 3.2, 3.3 and 7.4.

Belgium's plan focuses on improving alternative modes of transportation. The plan includes investments and reforms aimed at supporting e-mobility and deploying electric charging points (7,451 over the whole country). Belgium will reform its mobility budget to promote the use of collective transport and introduce incentives to install private and semi-public electric charging points. The plan also contains a reform of the company car tax scheme, whereby in order to be eligible to the tax advantages, new company cars need to be zero-emission from 2026 onwards. Simultaneously, investments will be conducted to finance the electrification of the bus fleet for public transportation in Flanders and Brussels (145 new electric buses). Belgium is using the RRP to substantially invest in its cycling, walking, rail, urban transport and inland waterways infrastructure. Significant investments will be made to improve the service quality and efficiency of Belgian railway services as well as national rail infrastructure, including stations, whose accessibility will be improved for bicycles and persons with reduced mobility. Belgium has also committed to completing the suburban railway network around Brussels in the future revised SNCB-NMBS performance contract. The plan will support the completion of the light metro of Charleroi.

Bulgaria

Allocation: EUR 479 million. Relevant component: 8(R1, R2, R3, R4, R5, I1, I2, I5, I6, I7)

Bulgaria's plan enhances the sustainability of the transport sector with investments and reforms in the road and railways sectors, sustainable mobility, road safety, and public transport. By updating the national Strategic transport framework, the plan aims to strengthen the capacity of the main responsible bodies, deliver a new public service contract for rail services, increase the number of passengers and reduce journey time between the largest cities. It will deliver new rolling stock and equip locomotives with the European Rail Traffic Management System (ERTMS), reducing maintenance costs and increasing train speed, infrastructure capacity and safety. It will enhance road safety with a new conceptual framework, specialised equipment and software applications. The new Public Transport Act will establish a clear regulatory framework and define the responsibilities of all entities involved. The law on electric mobility will stimulate zero-emission transport, by creating low-emission zones, incentives for zero-emission vehicles, and a wide network of electric charging stations. The plan will promote sustainable urban mobility via municipal and regional plans, the construction of a new section of the Sofia metro line, the deployment of zero-emission public transport vehicles, electric charging stations, and integrated solutions for vulnerable road users.

Croatia

Allocation: EUR 861 million. Relevant components: 1.4 (R1, R2, R2-I1, R2-I2, R2-I3a, R2-I3b, R2-I4, R2-I5, R2-I6, R2-I7, R3, R3-I1, R3-I2, R3-I3, R3-I4, R4, R4-I1, R4-I2, R5, R5-I1b, R5-I1c, R5-I2a, R5-I2b, R5-I3a, R5-I3b) and 7.1 (I1a, I1b, I2a, R1-I1a, R1-I2b, R1-I2c, R1-I4a).

The plan includes the adoption of a legislative framework to promote the production and use of advanced biofuels in transport and a dedicated strategy to foster development of hydrogen. These reforms are complemented by infrastructure investments including the rollout of hydrogen refuelling stations across the country. In the rail sector, major investments are targeted towards modernisation and electrification of the TEN-T rail network, as well use of hydrogen powered trains for non-electrified railway tracks. Investments will support the purchase of electrical and hydrogen-powered buses for public transport, refit of diesel locomotives to hydrogen and zero-emission passenger ships for coastal transport. The plan will, inter alia, contribute to improving public transport in Zagreb, with the flagship activity to develop autonomous electric taxis. Croatia also plans to accelerate the electrification and digitalisation of road and air transport. For instance, investments will finance the deployment of 1,300 fast charging stations for electric vehicles and create incentives for the purchase of 2,000 cleaner vehicles through support schemes.

Cyprus

Allocation: EUR 82 million. Relevant components: 2.2 (R1, I1.1, R2, I2, R3, I3.1, I3.2).

Cyprus' plan aims at initiating a modal shift from polluting private cars to public transportation and cleaner vehicles. It contains an investment intended to

kick-start the replacement of conventional vehicles with zero- and low-emission vehicles. Hence, a substantial part of the plan consists in financing the promotion of electric vehicles, notably by funding the installation of charging infrastructure in sufficient numbers to match the planned expansion of electric vehicles. The plan also proposes to reform the regulatory framework, through introducing exclusion zones for polluting vehicles and free public transport tickets in order to incentivise the use of public transport. Measures in the plan will also encourage the implementation of environmentally friendly and inclusive mobility options in urban areas such as bicycle lanes or walkway ramps. Cyprus' REPowerEU chapter contains a regulatory reform which shall facilitate the rollout of electric vehicles and enable final consumers to actively participate in the electricity market.

Czechia

Allocation: EUR 1,243 million. Relevant components: 2.1 (R.1, I1, I2, I3, I4.a, I4.b, I4.c), 2.4 (I1, I2, I3, I4, I5, I6), 3.3 (I3d, I3e), 7.5 (R1, R2, R3, R4, R5, I1).

Czechia's plan includes measures that will contribute to increasing the share of rail in freight and passenger transport by improving and electrifying railway infrastructure. In addition, the plan also encourages zero-emission propulsion in road and urban bus transport, as well as reforms with binding targets for deployment of zero-emission vehicles, revising tax incentives and vignette costs to incentivise clean vehicles, and easing permitting for alternative fuels infrastructure. On the local level, the plan incorporates a reform requiring cities with less than 40,000 inhabitants to submit a Sustainable Urban Mobility Plan by June 2023, which will promote greater use of more energy-efficient modes of transport for regular and heavy transport flows. For instance, the RRP will finance trolley buses and trams for the city of Prague. The plan will also support the purchase of more than 6,000 battery electric and hydrogen vehicles for the public and business sector. Moreover, it includes the creation of 4,380 recharging points for private companies and residential buildings, as well of 52 recharging points for public transport in the city of Prague. These investments shall increase incentives for operators to invest in the construction of alternative fuels infrastructures.

Denmark

Allocation: EUR 239 million. Relevant components: 5 (R1, I6, I7, I8).

The plan will contribute to accelerating the green transition of road transport. It includes a major reform, which aims at incentivising consumers to choose zero- and low-emission cars by lowering registration tax for these vehicles. A temporary increase in the scrapping premium for old diesel cars complements this effort by taking out these vehicles from circulation. The combination of these measures is expected to bring the stock of zero- and low-emission cars to at least 225 000 by 31 December 2025, compared to the 2021 baseline of 65 000. Moreover, the plan will support investments in the construction of public accessible charging stations for electric bicycles (at least 75 new stations) and of bicycle infrastructures (among other outcomes, 45 km of new infrastructure will be delivered). Beyond road transport, the Danish plan also includes subsidies for the purchase of green ferries or the retrofitting of existing ones. This is expected to enable the green transition of at least 15 ferries.

Estonia

Allocation: EUR 91 million. Relevant components: 5 (5.1 to 5.5)

Estonia's plan includes a reform, which consists of the adoption and implementation of the new Transport and Mobility Development Plan, itself including several measures and investments: harmonising the ticketing and pricing system of the Tallinn capital region public transports and electrifying the railway between the two biggest cities, Tallinn and Tartu; the construction of selected Rail Baltic viaducts in Estonia; building a new tram line connecting the Tallinn Old Port with the airport through and the new multimodal Rail Baltic terminal. The plan also encompasses the construction of a multifunctional work vessel to increase maritime safety, anti-pollution and research capacity, as well as investments in light mobility (on foot or bicycle) in areas outside major urban centres.

Finland

Allocation: EUR 99 million. Relevant components: P1C4 (R1, I1, R2) and P2C1 (I2).

The Finnish plan includes a set of measures that will contribute to reaching ambitious targets: halving transport emissions by 2030 compared to 2005 and reaching emission-free transport by 2045. The framework for this policy objective will be set by a "Roadmap to fossil-free transport", which encompasses digital transport solutions, private charging infrastructure as well as a distribution obligation for biogas and biofuel. Investments will support the reform by financing electric and hydrogen vehicles. To stimulate the use of sustainable transportation means, the plan includes a reform of transport taxation entailing, inter alia, lower tax rates for electric vehicles. More than 80% of Finland's RRP allocation to transport will finance the digitalisation of its railway network with the introduction of the ERTMS along with the 4G and 5G-based Future Railway Mobile Communication System (FRMCS).

France

Allocation: EUR 6,268 million. Relevant components: C3(R1, and I1 to I6).

France's RPP will support the modernisation of the railway network to increase the use of rail as an alternative to road transport. A pivotal investment of the French plan is a EUR 4.4 billion investment into SNCF Réseau, which entails the renovation of local railway lines as well as the recapitalisation of the national railway infrastructure manager. Moreover, measures seek to improve infrastructure in large cities for day-to-day transport, including metro lines as well as rail, in particular in the Ile-de-France region. The plan also includes an investment to stimulate the private demand for clean vehicles, under the form of an "ecological bonus", consisting in a subsidy provided by the state to support the purchase of an electric, plug-in hybrid or hydrogen vehicle. The car fleet of three national administrations will be as well renewed with clean vehicles. The French RRP further bolster zero-emission mobility by including investment in electric charging points. Regarding the maritime sector, investments will contribute to the climate transition by supporting alternative fuel and cleaner vessels. Additionally, the plan proposes a Mobility Law, which aims to reform the transport sector to support its shift towards climate objectives.

Germany

Allocation: EUR 7,378 million. Relevant components: 1.2 (I1 to I7), and 2.2 (I4).

The German plan will accelerate the decarbonisation of the transport sector by investing in clean vehicles and sustainable transportation along with hydrogen and fuel cell technology for vehicles. The largest investment will be devoted to financial support provided by the Federal Government for the purchase of electric vehicles to foster the replacement of polluting private vehicles. This measure will be supplemented by a ten-year tax exemption starting from the registration of an electric vehicle, as well as by funding of recharging infrastructures. Furthermore, the plan includes substantial investments to support the purchase of low or zero-emission buses. To decarbonise the economy, the RRP will promote the hydrogen and fuel cell technology value chain in mobility applications. The German plan also focuses on modernising the railway sector by investing in cleaner rail propulsion and by digitalising services, notably in the framework of 'Digital Rail Germany'.

Greece

Allocation: EUR 579 million. Relevant components: C1.2 (16783.c), C1.3 (R16281, 16924.a, 16924.b, 16924.c) C4.6 (16975, 16959, 16954, 16950, 16892, 16634.f, 16626.d, 16999).

The plan will contribute to the expansion of electric mobility in Greece and help the country reach a 30% share of electric vehicles in the domestic market by 2030. A reform will facilitate the installation and operation of charging infrastructure, and sizeable investments will finance the installation of 4500 new publicly accessible charging points as well as replacement of old buses in Athens and Thessaloniki with 220 new electric ones. The Greek plan also contains investments targeting the railway network. For instance, a new 36km Suburban Railway will be built in West Attica. Measures also concern the upgrading of the national railway infrastructure, with the aim of ensuring safe and smooth operation on the Greek network. In addition, investments will contribute to

digitalising the Hellenic Railways Organisation. Another measure entails the restoration of the damage to the road and railway network and the accompanying technical works in the areas affected by the storm "DANIEL", which occurred in the summer of 2023. The plan contains a reform to enable the establishment of regional bus companies to securely invest in electric public transport vehicles. Furthermore, the plan focuses on the modernisation of twelve regional ports in areas with developed tourism activity. Lastly, Greece's RRP will finance the creation of an "urban promenade", accessible for cyclists and pedestrians along the Athens Riviera.

Hungary

Allocation: EUR 1831 million. Relevant components: C.5 (I1, I2, I3, I4, I5, R1), C10 (I6, I9, I10, I14, I15)

The Hungarian plan will contribute to electrification of the transport sector both by supporting public and personal transport infrastructure. Investments in the Plan tackle bottlenecks on the TEN-T railways by improving the railway capacity and the central railway traffic management system. These changes will improve personal transportation as well as freight traffic contributing to lower CO2 emissions of the transport sector. Investments into zero-emission buses, deploying tram and trolleybuses and upscaling the capacity of suburban railway lines in Budapest will provide emission friendly means of public transportation, while improving traveling conditions and increasing capacity. The reform setting up a single national tariff, ticketing and passenger information system will make transport services more accessible and user-friendly, this way reinforcing the benefits of the infrastructural investments. Lastly, the potential of personal electromobility sector will also be unlocked by funding for the purchase of electric vehicles for companies and for the rollout of recharging stations.

Ireland

Allocation: EUR 164 million. Relevant components: C1.4

The Irish plan promotes sustainable transport through the Cork commuter rail investment. The overall objective is to promote sustainable mobility alternatives to private passenger cars and increase the use of public transport. The investment is three-fold: construction of a through-running platform at Kent station, double tracking of the current single line between Gouldthaune and Midleton, re-signalling of 62 km of lines. Moreover, it will support future electrification of rail services on the Cork area commuter rail network.

Italy

Allocation: EUR 33,990 million. Relevant components: M1C1 (I1.4.6), M2C1 (I2.1.c, I3.1.b), M2C2 (R5, I.3.3, I3.4, I4.1, I4.2, I4.3, I4.4.1.a, I4.4.1.b, I4.4.2, I4.4.3.a, I4.4.3.b), M3C1 (R1.1, R1.2, R2.1, I1.1, I1.2, I1.3, I1.4, I1.5, I1.6, I1.7, I1.8), M3C2 (I1.1), M5C3 (I1.4), M7 (I11, I12)..

The Italian plan entails substantial investments in rail infrastructure with the objective to integrate more regions into the high-speed rail network and complete the rail freight corridors. Italy will allocate funding to a sizeable investment to the construction of high-speed lines in the northern part of the country in order to improve the connection of its rail network with the rest of Europe. Furthermore, the plan contains measures to boost sustainable local transport through the extension of cycle lanes, metro, tramways, trolleybuses and zero-emission bus networks. For instance, regional public transport bus fleets will be renewed with at least 3,000 zero-emission buses. Local transport will also be improved through the construction of electric recharging stations across the country, as well as hydrogen refuelling stations for road and rail transport. Moreover, the plan includes two key reforms, which aim at accelerating institutional processes for sustainable modes of transport: for the approval of contracts between the Ministry of Infrastructure and Transport and the railway infrastructure manager RFI; and for the permitting process of infrastructure projects (reducing the authorization time from 11 months to 6 months).

Latvia

Allocation: EUR 302 million. Relevant components: 1(1.1.1) and 3(3.1.1).

The plan includes an overarching reform which seeks to consolidate and rationalise the currently fragmented transport system of the Riga metropolitan area to incentivise the use of public transportation. The reform is complemented by a series of investments in clean mobility and infrastructures. The investments are expected to deliver the construction of 100 km of new

railway infrastructure, a battery electric train charging infrastructure, seven electric bus charging stations, 52 km of cycle infrastructure, a public transport hub (bus/electric bus, tram and trolleybus), eight intermodal infrastructure at transport stations to improve multimodal integration and reduce transfer times between modes of transport, a 5.3 km bus rapid transit lane and the extension of Riga's tram lines by 2.2 km and trolleybus line by 0.3 km. Moreover, the plan includes the purchase of 17 electric buses and additional 15 electric school buses for municipalities.

Lithuania

Allocation: EUR 281 million. Relevant components: C2 (B1.2.1 to B1.2.3), C8 (H1.2)

The plan includes a pivotal reform, which aims at significantly reducing greenhouse gas emissions by phasing out the most polluting road transport vehicles (private, public and commercial) and by increasing the share of renewable energy sources in the transport sector. Moreover, this reform is complemented by three investments. The first investment will support the purchase of clean vehicles (light and heavy-duty vehicles, and buses) by the public sector and by businesses. The second investment will contribute to accelerating the replacement of polluting public transport vehicles with cleaner ones. The third investment will complement the preceding ones by creating a network of public, semi-public and private electric charging points as well as alternative refuelling infrastructure (hydrogen, biogas, biomethane). 53,200 private recharging points should be installed by 2026. Additionally, the REPowerEU chapter includes support for the purchase and delivery of essential components for the zero-emission transport of heavy goods along the Lithuanian inland waterways.

Luxembourg

Allocation: EUR 31 million. Relevant components: 2A (R.1, I.1).

The Luxembourg RRP predominantly revolves around a support scheme for recharging points. This investment, which amounts to one third of the national recovery and resilience plan's expenditure, will complement existing schemes and foster the deployment of a network of recharging stations to make electric mobility more attractive for Luxembourg's drivers. This measure is complemented by a reform supporting the electrification of road vehicles of contracting authorities and entities, and public transport. As transport is Luxembourg's main greenhouse gas emitting sector, these RRP measures into sustainable mobility significantly contribute to Luxembourg's climate goals.

Malta

Allocation: EUR 94 million. Relevant component: 2(R1, R2, I2, R3, I3, R4, I4).

The Maltese plan focuses on decarbonising transport and tackling congestion on the island by investing in alternative transportation means and by strengthening incentives to use public transport. The construction of a ferry landing site at Buġibba will help reduce emission in waterborne transport, as the ferry landing site is to be equipped with electric charging infrastructure to enable the electrification of ferry transport. In addition, investments will promote the uptake of zero-emission electric vehicles in the private and the public sector. Furthermore, Malta aims to decarbonise its public transport fleet through the purchase of zero-emission electric buses. These investments are underpinned by important reforms, such as the extension of free public transport to additional groups to incentivise the use of collective road transport. Similarly, the implementation of solutions set out in the Sustainable Urban Mobility Plan for the Valletta region, the creation of car-free regeneration areas in urban centres, and an awareness-raising campaign are all expected to make transport more sustainable.

Netherlands

Allocation: EUR 745 million, Relevant components: C1 (1.I1.1~~A~~, 1.I1.2~~B~~, 1.I3) and C2 (1.I4, 2.I1, 2.I2, 2.I3)

The Dutch RRP covers different types of transport. First, the Dutch RPP supports the modernisation of the railway network, by contributing to the replacement of the existing analogue train protection system with the European digital standard for train protection and control. The Dutch plan also supports the decarbonisation of the maritime transport sector, by supporting the completion of Modular Energy Containers (MECs) with a total capacity of 150 kWh, 14 loading sites for vessels and fully electric inland

waterway vessels with a total tonnage of 6161 TEU (twenty-foot equivalent units). In addition, the Netherlands will invest in five new electric recharging points for electric vessels (including hybrid vessels) at sea, as well as five new electric recharging points for electric vessels (including hybrid vessels) in the quay, and three new emergency response towing vessels. The transition to a safe, smart and sustainable mobility is also addressed in the Dutch RRP, among others through the replacement of existing roadside station with intelligent roadside stations, which are more efficient and durable and require less maintenance than existing roadside stations.

Poland

Allocation; EUR 6,363 million. Relevant components: A(A2.3.1), B(B2.1.1.1, E(E1.1.1, E1.1.2.2, E1.2.1, E2.1.1.1 E2.1.1.2, E2.1.1.3, E2.1.1.4, E2.1.2, E2.1.3, E2.2.2), G(G1.3.2)

The Polish plan significantly contributes to the decarbonisation of the mobility sector by comprehensively addressing pressing challenges in the public transport and railway sectors. In particular, the plan supports the uptake of public transport with investments in trams for Polish cities and zero and low emission buses, of which 579 will be dedicated to intra-urban mobility and 1159 for public urban transport. The plan also covers improvements in road safety, aims to double the number of electric vehicles registered in the country and kick-start the development of sustainable and low carbon hydrogen fuels by investing into refuelling infrastructure. Furthermore, the plan underlines the need for shifting transport from road to rail and plans to modernise 478 km of railways lines, purchase additional rolling stock for regional and long-distance and increase the capacity of intermodal terminals. Poland also aims to improve the safety of the sector and use digital solutions to enhance its efficiency and sustainability.

Portugal

Allocation: EUR 1,665 million. Relevant components: C01(i01.6), C03(i01.4, i04-RAA.2), C07(i00, i01.4), C15(r30, i01, i02, i03, i04, i05, i06), C21 (i12, i13-RAM, i14, i15-RAA, i16).

The plan will contribute to reducing emissions from transport by investing in public transport through metro network extensions, as well as through new light rail and bus rapid transit systems in the cities of Braga, Lisbon and Porto. The purchase of zero-emission buses and related recharging infrastructure will enhance the modernisation of the public transport fleets. The plan supports the upgrade of public services by financing the purchase of electric cars in the social and health sectors. As a flanking measure (not financed by the RRF) to road investments, the construction of 15,000 publicly accessible recharging points will strengthen road transport decarbonisation. The Portugal's plan also includes measures for the construction of a funicular in Nazare and the purchase of electric ferries. Additionally, the Portuguese plan also includes a reform which aims to support capacity building and increase the ability of public transport authorities to better plan the transport systems they manage and enhance the use of public transport. This measure should ensure a long-term impact on transport planning and reinforce its contribution towards decarbonising the sector.

Romania

Allocation: EUR 5,484 million. Relevant components: 4(I1.1 to I1.12, I2.1, I2.2, I2.3, I3.4, I4), 5(I1.2, I1.4), 10(R.1, I1.1, I1.4, R.2), 11 (I4), 15 (I10.3).

The Romanian plan includes an investment that will contribute to modernising railway lines in line with the TEN-T standards and participate to renew railways infrastructure. This investment will be accompanied by a measure financing the acquisition of new zero-emission and upgraded rolling stock. The plan also proposes reforms and investments to promote urban mobility through zero-emission public transport, green taxation under the "polluter pays principle", along with incentives for zero-emission vehicles for public and private use. Complementary investments will support the construction of at least 22,415 recharging points for zero-emissions road vehicles, as well as the purchase of zero-emission buses and trams for local public transport. The underground transport network will also be expanded in the municipalities of Bucharest and Cluj-Napoca. Moreover, in an effort to ensure sustainable transportation means in rural areas as well, 1,218 electric minibuses will be acquired for the transport of pupils. Romania also plans to construct new cycling lanes in urban areas and across the country.

Slovakia

Allocation: EUR 846 million. Relevant components: 3(R.1, I.1, R.2, I.2, R.3, I.3, R.4, I.4), 4 (I.2b), 19 (I.5, I.6)

The plan will support the decarbonisation of the Slovak transport sector by financing the electrification and upgrade of railway lines. This impetus towards decarbonisation will also be reinforced through the construction and modernisation of tram and trolleybus lines, as well as by the creation of a new cycling infrastructure. Moreover, Slovakia's RRP will support the roll-out of recharging stations and hydrogen refuelling stations for zero-emission vehicles. Additional investments will focus on increasing rail passenger transport's attractiveness by increasing the number of connections. As regard reforms, the plan foresees the improvement of the legislative framework concerning the management of investments for transport projects and regarding the provision of passenger transport. The plan will also reform the framework for the construction of alternative propulsion infrastructure, notably by introducing easing the administrative process for construction of such infrastructure. Another reform aims to providing a strategic concept designed to shift 30% of road transport over 300 km to rail or waterborne by 2030 and over 50 % by 2050 (compared to 2005).

Slovenia

Allocation: EUR 748 million. Relevant components: 4 (RA, RB, ICa, ICb, ICc, ICd, ICLa, ICLb, IDb, IE, RF) and 17 (IEc and IEb).

The plan will contribute to decarbonising the transport sector by upgrading congested railway lines, refurbishing railway stations, increasing capacity, speed and safety of rail transport. Slovenia will also implement a reform of governance framework for public transport by setting up an integrated public-passenger operator at national level. This reform will will allow more targeted use of investments and will help integrate rail and bus public transport with intercity, urban, school and commuter transport. Furthermore, the plan introduced a reform on the deployment of alternative fuels infrastructure, which established system, standards, players and source of financing for deployment of alternative fuels in transport. Building on this reform, the plan will support the deployment of 1240 alternative fuels infrastructure (electric or hydrogen) and of 2705 zero-emission vehicles.

Spain

Allocation: EUR 15,410 million. Relevant components: 1(R1, I1, R2, I2, I3), 6(R1, I1, R2, I2, I3, I4), 14(I1).

The Spanish plan encompasses significant measures for both urban and extra-urban mobility, expected to increase the share of sustainable transport in day-to-day mobility, to enhance connectivity through digitalisation, as well as to provide the regulatory framework underpinning the renewed mobility policy. Major investments and reforms will contribute to supporting the creation of low-emission zones to incentivise use of urban public transport, as well promoting collective transport and active mobility including cycling infrastructure and pedestrian lanes. Moreover, the plan foresees significant investments in alternative fuel transportation, notably in the form of support schemes that will facilitate the roll-out and penetration of electric vehicles and related recharging infrastructure, along with other low or zero emission technologies in transport, including hydrogen. A sizeable investment is also dedicated to enhance the accessibility and efficiency of Spain's national railway network. The use of rail freight transport will be promoted through the completion of several missing TEN-T corridors and through the development of intermodal transport nodes, which also entails improving access to ports. The setting-up of a financing system for the conservation and maintenance of public roads, which internalises environmental costs, is also expected to contribute to the modal shift from road to rail. Lastly, the Strategic Project for the Recovery and Economic Transformation (PERTE) includes projects that promote the transformation of the automotive and electric vehicle sector, pivotal for the industrial sustainable transition of Spain, with an allocation of at least EUR 650 million of budget in aid.

Sweden

Allocation: EURO 310 millions. Relevant Components: A1 (I.4, R1, R2, R3)

The Swedish Plan comprises investments for strengthened railway support, with an upgrade of Swedish railways to allow more persons and enterprises to use railways as a means of transportation. The upgrade concerns the railways between Gävle-Ånge

(switching rail and shunting) and Västeraspby-Långsele (switching rail and shunting), to improve railway capacity. Sweden's RRP reforms include phasing out the energy tax reduction on fuels in certain sectors (i.e. manufacturing as well as professional agricultural, forestry, and aquaculture activities),. This will include the phasing out of the existing energy tax reduction on fuels consumed for heating or the operation of stationary engines. In addition, Sweden is also adjusting taxable benefit rates for company cars, which will adjust the relative costs to better reflect the costs of private car ownership. The aim is to make the tax system neutral between receiving car benefits and a cash salary.