European Commission

# RECOVERY AND RESILIENCE SCOREBOARD

NextGenEU

## Thematic analysis

Sustainable Mobility

April 2022

*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.*

# Policy Overview

**Transport has long been one of the hardest sectors to decarbonise. Tackling the decarbonisation of this sector 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 declines. There are also related considerations of local air quality, as transport is responsible for more than half 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. Electromobility is a promising area for emission reductions in road transport. However, it will not necessarily be able to 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 these areas, while sustainable biofuels are also expected to continue to grow in some modes.

**On July 14, 2021, as part of the 'Delivering the European Green Deal Package', the European Commission proposed to double the current share of renewable energy in the EU gross final energy consumption to reach 40% by 2030.** This is an 8-percentage point increase from the EU's current binding target of 32% by 2030. This overall target is complemented by a number of sectoral targets in transport, heating and cooling sectors as well as by new indicative targets for the industry and building sector. In the transport sector, the proposed Renewable Energy Directive[1] sets a target for hydrogen and e-fuels reaching 2.6% of total sector energy consumption, while the overall GHG intensity should be reduced by 13% by 2030.

**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 22 plans adopted so far will more than double the currently available public charging points to around 450,000. The RRF finances sizeable rail investments, notably in the TEN-T network.

**A wide number of legislative policies have been introduced under the 'Fit for 55 Package' (July 2021).** Key proposals will directly concern transport. The revised Alternative Fuels Infrastructure Regulation will require Member States to expand charging capacity in line with the size of the market for zero or low-emission vehicles. They will also be required to install charging and fueling points at regular intervals on major highways: every 60 kilometers for electric charging and every 150 kilometers for hydrogen refuelling. The package also includes 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. The revised Alternative Fuels Infrastructure Regulation (formerly Directive) requires that aircraft and ships have access to clean electricity supply in major ports and airports. The Trans-European Network: Transport (TEN-T) Regulation is also being revised, aiming to accelerate the completion of the network and apply new greener standards. Important **EU Emission Trading System (ETS)** related proposals will aim at applying emissions trading to maritime transport, increasing the auction share of intra-EU flights in the system, and creating a new ETS for fuel distribution for road transport from 2025, while continuing to cover the sector

[1] 2021/0218(COD)

under the Effort Sharing Regulation as well. 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 649 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 and estimated at around EUR 474 billion per year. The investment needs include those in charging infrastructure and the purchase of vehicles, but do not include non-energy elements such as rail, which will also be significant. Investments in transmission of electricity and hydrogen are covered in the Clean Power fiche[2].

**Given the importance of intra-EU transport, investment in cross-border projects will be essential.** Development of the TEN-T network will allow completing the modal shift and help the moving of passengers and freight across the EU in a sustainable way. Various Important Projects of Common European Interest (IPCEI) are planned. They can support hydrogen-based fuel. 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] https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/assets/thematic_analysis/1_Clean.pdf

# Investments

**The 22 recovery and resilience plans approved[3] so far 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 70.7 billion[4], which corresponds to 15.7% of the total expenditures in the plans. Some Member States allocated up to one third of their RRPs' expenditures to sustainable mobility related measures, reflecting the priority given to this policy area. Furthermore, when looking at expenditure from the RRF climate tagging perspective[5], investments in sustainable mobility represent 35% of the total investments in the RRPs identified as contributing to the climate objectives. 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 38.0 billion[6]).** The plans 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-fueled). 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 15.1 billion including rolling stocks)[7].** 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 7.6 billion).** Such investments are included in several plans. 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 almost 225,000 charging infrastructures for electric 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.

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[3] These include the 22 recovery and resilience plans approved by the Council by March 2022.

[4] The figures for sustainable mobility presented in this thematic analysis 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).

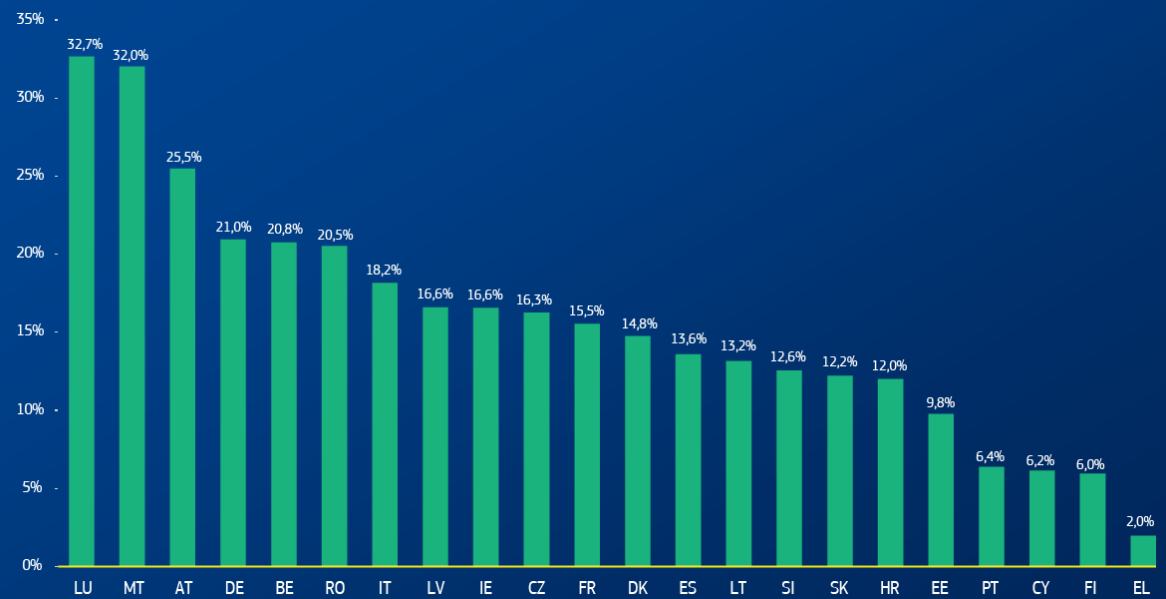
[5] Based on Annex VI of the RRF regulation 2021/241.

[6] Excluding rolling stocks

[7] Urban transport infrastructure and public transport rolling stock (e.g. trams, metros and buses).

**Share of Sustainable Mobility expenditure**

Expenditure on sustainable mobility, % of national RRP's expenditure




## Reforms

**The reforms dedicated to sustainable mobility are important parts of the national recovery plans, notably because a number of them reinforce the investments by enabling or facilitating their efficient implementation.** Some RRPs entail measures reforming the national regulatory frameworks to introduce sustainable urban mobility plans, dealing with the 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 several 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 of permitting procedures. These reforms are complemented by measures fostering the procurement of clean vehicles (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 in the approved RRPs will set out dedicated strategies aiming at increasing the quality and efficiency of rail services. In addition, the plans include reforms that will simplify permitting procedures for sustainable transport infrastructure projects. Lastly, national plans 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.

# Good practices

**Developing the market for zero-emission vehicles and their related infrastructure is 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 plans 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 investment into charging infrastructure. As such, incentives to invest into 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 plans set high ambitions for progress in this area.

**The uptake of alternative modes of transport, from rail and cycling to waterborne, will also 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 air quality in coastal areas and safety issues.

## Zero emission vehicles

**Belgium** has committed to a reform aimed at phasing-out conventional cars from the existing company car tax scheme as from 2026, which benefits a large number of cars running every day on Belgian roads. This reform is expected to foster the uptake of electric vehicles and reduce emissions of GHG and air pollutants.

**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. As part of its updated National Action Plan for Clean Mobility, it will provide grants to private companies, setting a target for the scheme to result in the purchase 3,525 electric and 30 hydrogen vehicles. 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.

**Spain**'s plan displays an ambitious set of measures geared towards accelerating the penetration of electro-mobility in urban and metropolitan environments. In addition, EUR 400 million in subsidies will be allocated to the transformation of public sector fleets to zero emission vehicles, using a number of innovative technologies, among which electro mobility. In order to support the implementation of such investments, related measures for infrastructure are also envisaged.

## Charging 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, 9 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. This scheme is aligned with the EU legal framework and meant to complement the existing support scheme in place since July 2020.

Hydrogen will also be an important energy source, which carries 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 through an ambition to develop specific hydrogen-based charging stations for cars, buses and heavy vehicles. More details of how the RRP is supporting hydrogen can be found in the 'Clean Power' fiche8, which includes projects related to the transport sector

### Modernisation of railway infrastructure and interoperability

**Italy** is using its plan to complete the TEN-T Core Network Corridors, in particular the Verona-Brenner connection in the Scandinavian-Mediterranean Corridor, and integrating them with the regional rail network, and deploying ERTMS across the national network.

**Spain** displays a very ambitious plan 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 everyday and future mobility needs, in view of ensuring resource efficiency, interoperability and economic sustainability.

The European Rail Traffic Management System (ERTMS) 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. **Romania** will modernise 315 km of railway notably through the implementation of the ERTMS 2 standard.

The electrification of rail is another way of greening public transport, moving away from fuel-based locomotives. **Ireland** aims to invest in enabling future electrification of the railways of the Cork metropolitan area. This will reduce car use and increase the uptake of clean public transport.

[8] https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/assets/thematic_analysis/1_Clean.pdf

### Cycling

**Slovakia**'s plan contains investments to build 200 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** has plans to extend and upgrade cycling (and walking) infrastructure throughout the country. It aims to building 187 km and refurbishing 1,356 km of cycling paths in all three regions of the country. The investment includes the construction of 7,000 bicycle parking spaces as well as cycling highways from Brussels to its outskirts. These measures will support the reduction of congestion through shifting transport modes from cars to bicycles and reduce health risks associated with sedentary lifestyles.

### Maritime

**Cyprus** is investing in digitalising key processes in its national Ports Authority (CPA) to improve ports' efficiency and effectiveness, including communications between vessels and the relevant authorities and improvements to monitoring vessel traffic in its territorial waters. These investments will ensure the safe navigation of vessels, reduce the risk of environmental damages due to spills from accidents and reduce vessel emissions by plotting more efficient routes.

**Croatia** has investments in alternative-fuel-powered ships with a view to improving the quality of public passenger transport services and connecting the islands while using zero emission vessels. This measure will modernise the fleet by introducing six passenger ships using electrical-solar propulsion, of which three high-speed passenger ships.

## 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[9].*

[9] Source : Fenix (RRF reporting tool)

## Austria

*Allocation: 1,147 million. Relevant components: 1(B.1 to B.5), 2(D.3 S.12, D.3 S.13, D.3 S14), 4 (D.5).*

The Austrian plan comprises a series of investments and reforms, which lay 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 constructed 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.

## Belgium

*Allocation: EUR 1,230 million. Relevant components: 12 (116.S4), 31 (301.S1, 302.S2, 303.S3, 304), 32 (R301, R302, 306.S2, 307.S3, S08.S4, 309.S1, 310.S1, 310.S2, 311.S1, 311.S2, 313.S1, 315), 33 (R303, 318.S3, 319.S4, 304.S1, 305.S2, 306, 316.S1, 317.S2).*

The Belgian plan focuses on improving alternative modes of transportation. The plan includes investments and reforms aimed at supporting e-mobility and deploying electric charging points (78,000 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 (110 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, the Liège tram and the bus rapid transit system in Mons-Borinage.

## Croatia

*Allocation: EUR 768 million. Relevant components: 1.2 (R1-I3a, R1-I3c, R1-I4a), 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).*

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 major infrastructure investments including the construction of a biorefinery for the production of advanced bioethanol, as well as 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. Investments will support the purchase of electrical and hydrogen-powered buses for public transport 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 charging stations for electric vehicles and create incentives for the purchase of 2,000 cleaner vehicles through support schemes.

## Cyprus

*Allocation: EUR 74 million. Relevant component: 2.2 (R1, I1.1, R2, I2, R3, I3.1, I3.2).*

The Cypriot 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 create 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.

## Czechia

*Allocation: EUR 1,143 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).*

The Czech 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 alternative propulsion in road and urban bus transport. 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 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 transition from diesel cars to low-emission vehicles. It includes a major reform, which aims at incentivising consumers to choose zero- and low-emission cars by lowering registration tax for these vehicles. Moreover, the plan will support investment in the construction of electric bicycle infrastructure while improving bike paths. Denmark will also provide subsidies for the purchase of green ferries or the retrofitting of existing ones.

## Estonia

*Allocation: EUR 96 million. Relevant components: 5 (5.1 to 5.5)*

The Estonian plan includes a reform, which consists in 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; the construction of the Rail Baltic multimodal terminal in Tallinn; building a new tram line connecting the Tallinn Old Port with the airport through the new multimodal terminal. The plan encompasses the construction of a railway connection between Tallinn and Rohuküla, which will connect Western Estonia with the international TEN-T hubs in Tallinn, as well as other investments to develop interconnected and shared mobility in urban areas at the expense of private cars and promote a comprehensive framework of light mobility (on foot or bicycle) in areas outside major urban centres. Moreover, the railway between the two biggest cities, Tallinn and Tartu, will be electrified.

## Finland

*Allocation: EUR 125 million. Relevant components: P1C4 (R1, I1, R2, I2) 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 public and private charging points for electric cars, and charging and refuelling infrastructure for biofuels. 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. Two third 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 6,980 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, which entails the renovation of local railway lines as well as the recapitalisation of the national railway infrastructure manager, SNCF Réseau. 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's fleet of three national administrations will be as well renewed with clean vehicles. France further plans to bolster those dynamics by investing in electric charging points. Regarding the maritime sector, investments will participate to the climate transition by supporting alternative fuel and cleaner vessels. Additionally, the plan proposes a Mobility Law, which aims at reforming the transport sector to support its shift towards climate objectives.

## Germany

*Allocation: EUR 5,557 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 low-emitting 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 State 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 charging 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 industries involved in hydrogen and fuel cell applications in transport. 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 618 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).*

The plan will contribute to the expansion of electro-mobility in Greece and help the country reach the 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 8,000 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. 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.

## 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 uptake of public transport. The investment is three-fold: construction of an additional platform at Kent station, double tracking of the current single line between Gouldthaune and Midleton, re-signalling of 62 km of lines. This measure forms part of the Cork metropolitan area transport strategy. It will support future electrification of rail services on the Cork area commuter rail network.

## Italy

*Allocation: EUR 34,800 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, I5.3), 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).*

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, tramway and zero-emission bus networks. For instance, the regional public transport bus fleet will be renewed with at least 3,000 zero-emission buses. Local transport will also be improved by the construction of electric charging stations across the country, as well as hydrogen refuelling points for road and rail transport. Moreover, the plan includes two decisive reforms, which aim at accelerating institutional processes: 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 303 million. Relevant components: 1(1.1.1) and 3(3.1.1).*

The plan primarily focuses on the overhaul of the Riga Metropolitan area transport, as 65% of the Latvian population lives there. The measures will contribute to creating a multimodal public transport network with a single and coherent timetable pricing and ticketing system. As a complement, new trams, electric buses and suburban trains will be acquired and 60 km of new cycle lanes will be built. The plan also features investments in clean transport infrastructure, with a focus on railway solutions, notably by electrifying 81km of railway. In addition, the plan foresees the purchase of 15 electric school busses for municipalities.

## Lithuania

*Allocation: EUR 293 million. Relevant components: C2 (B1.2.1 to B1.2.3).*

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. Concretely, this measure will be divided into three investments. The first investment will support the purchase of clean vehicles (light, heavy-duty, 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 fuel filling infrastructure (hydrogen, biogas, biomethane). 53,200 private charging points should be installed by 2026.

## Luxembourg

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

The Luxembourg plan predominantly revolves around a support scheme for charging 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 charging 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, efforts in sustainable mobility significantly contribute to Luxembourg's climate goals.

## Malta

*Allocation: EUR 110 million. Relevant component: 2(R1, I1, 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, is expected to facilitate modal shift from road to sea. 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. For instance, the extension of free public transport to additional groups will 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.

## Portugal

*Allocation: EUR 1,063 million. Relevant components: C01(i01.6), C03(i01.4, i04-RAA.2), C07(i00, i01.4), C15(r30, i01, i02, i03, i04, i05).*

The plan will contribute to reducing greenhouse gas and pollutant emissions from transport through metro network extensions as well as through new light rail and bus rapid transit systems in Lisbon and Porto. The purchase of zero-emission buses and related charging infrastructure will enhance the modernisation of the public transport fleet. 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 Portuguese plan includes a reform with the purpose of promoting capacity building and increase the ability of public transport authorities to better plan the transport systems they manage and enhance the usage 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 5,995 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, I1.5, R.2), 11 (I4), 15 (I10.3).*

The Romanian plan includes a sizeable 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 30,000 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, 3,200 electric minibuses will be acquired for the transport of pupils. Romania also plans to develop new cycling lanes in urban areas and across the country.

## Slovakia

*Allocation: EUR 804 million. Relevant components: 3(R.1, I.1, R.2, I.2, R.3, I.3, R.4, I.4), 4 (I.2b).*

The plan will support the decarbonisation of the Slovak transport sector by financing the electrification and the upgrade of railway lines. This impetus towards decarbonisation will also be reinforced by the construction and modernisation of tram and trolleybus lines, as well as by the creation of new cycling infrastructure. Moreover, Slovakia's RRP will support the roll-out of charging stations for electric and hydrogen 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 a "Recharging Point Rights". Another reform aims at shifting 30% of road transport over 300 km to rail or waterborne by 2030 and over 50 % by 2050 (compared to 2005).

## Slovenia

*Allocation: EUR 312 million. Relevant components: 4 (RA, IA, RB, IC, ICL, ID, IE).*

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 and digitalising rail infrastructure to reduce travel time. After a 75% fall in passenger numbers in 2020, Slovenia will also implement a reform that will provide an improved governance framework for public transport by setting up an integrated public-passenger operator at national level, which will help integrate rail and bus public transport with intercity, urban, school and commuter transport. Furthermore, the plan will support the deployment of 586 alternative fuels recharging points.

## Spain

*Allocation: EUR 9,457 million. Relevant components: 1(R1, I1, R2, I2, I3), 6(R1, I1, R2, I2, I3, I4), 14(I1).*

The Spanish plan encompasses significant measures, regarding 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 improve 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 charging 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 400 million of budget in aid.